County of Mercer

McDade Administration Building, 640 South Broad Street,
P.O. Box 8068, Trenton, NJ 08650-0068

SPECIFICATIONS FOR BID FOR
REPLACEMENT OF ARFF VEHICLES (343 & 344)
ITEM P 655 ARFF VEHICLE SPECIFICATION, CLASS 4
ITEM P 656 ARFF VEHICLE SPECIFICATION, CLASS 4
(BASE BID AND ALTERNATE BIDS)

TO BE RECEIVED ON JULY 2, 2013 AT 11:00 A.M.

Prepared By:
Division of Central Services
Department of Purchasing

AB2013-27

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COUNTY OF MERCER FRONT END DOCUMENTS

QUANTITIES FOR CANVASS OF BIDS

PROPOSAL

ATTACHMENTS TO PROPOSAL

Contractor's Certification of Eligibility
Buy American Preferences & Certificate
Certifications:

- Certification of Non-Segregated Facilities
- Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion

AGREEMENT

TECHNICAL SPECIFICATIONS

Item Number	**Description**
P-655	ARFF Vehicle No. 1
P-656	ARFF Vehicle No. 2

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COUNTY OF MERCER BIDDER'S CHECKLIST

REQUIRED BY OWNER	Submission Requirement	Initial each required entry and if required submit the item
☒	New Jersey Business Registration (prior to award of contract)	
☒	Stockholder Disclosure Certification	
☒	Acknowledgement of Receipt of Addendum	
☒	Bid Deposit in the amount of 10% not to exceed $20,000.00	
☒	Consent of Surety	
☒	Performance Bond from awarded Vendor	
☒	Affirmative Action Regulations Questionnaire	
☒	Required Evidence EEO/Affirmative Action (Employee Information Certificate) must be provided prior to Contract Award	
☒	Read: Americans with Disability Act of 1990 Language	
☒	Complete and sign Executive Order 98-1	
☒	Continuity of Operation Procedure	
☒	Exceptions	
☒	References	
☒	Signed Proposal	
☒	One Original and Two Copies of the Complete Bid Package	

This form is provided for bidder's use in assuring compliance with all required documentation.

Name of Bidder: _____

By Authorized Representative:

Signature: _____

Print Name and Title: _____

Date: _____

NOTICE TO BIDDERS

Notice is hereby given that on July 2, 2013 at 11:00 A.M.(Prevailing time), sealed bids will be opened and read in public by the Purchasing Agent in the Mercer County McDade Administration Building, 640 South Broad Street, Room 321, Trenton, New Jersey for:

REPLACEMENT OF ARFF VEHICLES (343 & 344)
ITEM P 655 ARFF VEHICLE SPECIFICATION, CLASS 4
ITEM P 656 ARFF VEHICLE SPECIFICATION, CLASS 4
(BASE BID AND ALTERNATE BIDS)

Specifications and instructions to bidders may be obtained at the Purchasing Office or on the County website at http://nj.gov/counties/mercer/procurement/bidsopp.html

Bids shall be delivered in sealed envelopes and addressed to Marcella Covello, Purchasing Agent, Room #321, 640 South Broad Street, P.O. Box 8068, Trenton, NJ 08650-0068.

With the exception of the United States Postal Service, express mail shall be delivered to the Department of Purchasing, 640 S. Broad Street, Room 321, Trenton, New Jersey 08611.

Bid Addenda will be issued on the website for bids issued online; therefore, all interested respondents shall check the website from now through the bid opening.

Bidders are required to comply with the requirements of N.J.S.A.10:5-31 et seq. and N.J.A.C. 17:27.

SCHEDULE:

Release Specifications:	June 13, 2013
Deadline for All Questions:	June 18, 2013 at 4:00 PM
E-mail questions to:	**mcovello@mercercounty.org**

QUESTIONS SUBMITTED AFTER THE DEADLINE SHALL HAVE NO BEARING ON THE PROJECT

Addenda Issued:	June 19, 2013
Bid Opening:	July 2, 2013 at 11:00 A.M.

COUNTY OF MERCER, NEW JERSEY
Purchasing Department
Marcella Covello, QPA
Purchasing Agent
AB2012-27
609 989 6710

REGISTER TO DO BUSINESS WITH THE COUNTY OF MERCER

A weekly e-notification is sent to all vendors currently registered with the County of Mercer, directing them to bidding opportunities on the County Procurement website.

REGISTER AT:
https://secure.jotform.com/form/2760607202

INSURANCE REQUIREMENTS

The contractor shall maintain sufficient insurance to protect against all claims under Workers Compensation as statutorily required, General Liability in the amount of $1,000,000.00 single occurrence and $2,000,000.00 general aggregate and Automobile Insurance in the amount of $1,000,000.00 combined single limit. Vendors are responsible to provide updated certificates as policies renew. Depending upon the scope of work and goods or services provided, specific types of insurance may not be required. The Mercer County Division of Insurance and Property Management will make this determination.

In all cases where a Certificate of Insurance is required, the County of Mercer and Mercer County Park Commission (if applicable) is to be named as an additional insured and named as the certificate holder as follows: "County of Mercer, 640 South Broad Street, Trenton, NJ 08611". The Certificate shall contain a 30-day notice of cancellation. The language shall state the following:

"The County of Mercer and Mercer County Park Commission (if applicable) named as additional insurance."

INSTRUCTIONS TO BIDDERS

In the event that an EXCEL spreadsheet is posted on our website, please submit the EXCEL Spreadsheet on CD and include hard copy proposal with bid. The detailed form of proposal is found on the County of Mercer website, at: http://nj.gov/counties/mercer/business/purchasing/bidsopp.html Bidders shall not modify the format of the spreadsheet. Do not convert the Spreadsheet to Portable Document Format (PDF) or change the format. Bidders shall also include with their bid response, a printed copy of the completed spreadsheet.

Bidders may submit a complete copy of their bid on CD.

BIDDERS MUST INCLUDE WITH THEIR BID RESPONSE, A PRINTED COPY OF THE COMPLETED BID AND SPREADSHEET. THE HARD COPY BID AND PROPOSAL IN THE BID DOCUMENT PREVAILS.

ITEM P 655 ARFF VEHICLE PROCUREMENT SPECIFICATION, CLASS 4
ITEM P 656 ARFF VEHICLE PROCUREMENT SPECIFICATION, CLASS 4
(BASE BID AND ALTERNATE BID NO. 1)

PROCUREMENT SPECIFICATION CLASS 4 AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF) VEHICLE

The County of Mercer requests bids for **ITEM P 655 ARFF VEHICLE CLASS 4 and ITEM P 655 ARFF VEHICLE CLASS 4. There is a base bid for one truck, alternate bid one for one additional truck, alternate bid two for an extended warranty for the base truck and alternate bid three for an extended warranty for the alternate truck. Please refer to the enclosed specifications.**

1. SCOPE. This Procurement Specification (PS) covers a commercially produced diesel engine driven ARFF vehicle for an Index B airport. It includes a 1500 gallon water/Aqueous Film Forming Foam (AFFF) fire suppression system:
450 lb potassium-based dry chemical and 460 lb halogenated agent complementary systems.

The ARFF vehicle is intended to carry rescue and fire fighting equipment for the purpose of rescuing aircraft passengers, preventing aircraft fire loss, and combating fires in aircraft.

2. CLASSIFICATION. The ARFF vehicle(s) covered by this PS are classified in accordance with Part 139, Certification and Operations: Land Airports Serving Certain Air Carriers, Section 315, Aircraft Rescue and Firefighting: Index Determination; Section 317, Aircraft Rescue and Firefighting: Equipment and Agents; and Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles, as follows:

Airport Index	Vehicle Class	Minimum Rated Capacities (gallons/liters)
Index B	4	1500 gallon (5678 liter) water/AFFF solution

Bidders shall sumbit a Bid Deposit and Consent of Surety. This is mandatory and required with the bid package. The awarded contractor shall provide a performance bond in the full amount of the contract award.

Operator parts and service manuals shall be provided by the awarded contractor. Bidders shall refer to the technical specifications for all warranty work. Vehicle(s) will be licensed and titled to the County of Mercer with registration and tags included.

Upon delivery, vendors must provide set-up, operating training by an authorized manufacturer's representative and two sets of training manuals. All equipment shall include standard safety features.

The truck and alternate truck (if the alternate is awarded) shall be delivered F.O.B. destination with delivery charge included within 365 calendar days.

SCHEDULE:

Release Specifications:	June 13, 2013
Deadline for All Questions:	June 18, 2013 at 4:00 PM
E-mail questions to:	**mcovello@mercercounty.org**

QUESTIONS SUBMITTED AFTER THE DEADLINE SHALL HAVE NO BEARING ON THE PROJECT

Addenda Issued:	June 19, 2013
Bid Opening:	July 2, 2013 at 11:00 A.M.

COUNTY OF MERCER

ACKNOWLEDGMENT OF RECEIPT OF ADDENDA

The undersigned Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Dated	Acknowledge Receipt (initial)
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

☐ **No addenda were received**

Acknowledged for: _____
(Name of Bidder)

By: _____
(Signature of Authorized Representative)

Name: _____
(Print or Type)

Title: _____

Date: _____

INSTRUCTIONS TO BIDDERS AND STATUTORY REQUIREMENTS

SUBMISSION OF BIDS

A. Sealed bids shall be received by the County of Mercer in accordance with public advertisement as required by law, with a copy of said notice being attached hereto and made a part of these specifications.

B. The bid shall be submitted in a sealed envelope: (1) addressed to the County of Mercer, (2) bearing the name and address of the bidder written on the face of the envelope, and (3) clearly marked "BID" with the contract title and/or bid # being bid.

C. It is the bidder's responsibility that bids are presented to the County at the time and at the place designated. Bids may be hand delivered or mailed; however, the County disclaims any responsibility for bids forwarded by regular or overnight mail. If the bid is sent by express mail service, the designation must also appear on the outside of the express mail envelope. Bids received after the designated time and date will be returned unopened. **Express mail shall be delivered to the Department of Purchasing, 640 S. Broad Street, Room 321, Trenton, New Jersey 08611.**

D. The Mercer County Park Commission and the Mercer County Library System are considered agencies of the County entitled to participate in the contract(s) resulting from this bid.

E. Sealed bids forwarded to the County before the time of opening of bids may be withdrawn upon written application of the bidder. Once bids have been opened, they shall remain firm for a period of sixty (60) calendar days.

F. All prices and amounts must be written in ink or preferably machine-printed. Bids containing any conditions, omissions, unexplained erasures or alterations, items not called for in the bid proposal form, attachment of additive information not required by the specifications, or irregularities of any kind, may be rejected by the County. Any changes, whiteouts, strikeouts, etc. in the bid must be initialed in ink by the person signing the bid.

G. Each bid proposal form must give the full business address**,** business phone, fax, e-mail if available, the contact person of the bidder, and be signed by an authorized representative as follows:

- Bids by partnerships must furnish the full name of all partners and must be signed in the partnership name by one of the members of the partnership or by an authorized representative, followed by the signature and designation of the person signing.
- Bids by corporations must be signed in the legal name of the corporation, followed by the name of the State in which incorporated and must contain the signature and designation of the president, secretary or other person authorized to bind the corporation in the matter.
- Bids by sole-proprietorship shall be signed by the proprietor.
- When requested, satisfactory evidence of the authority of the officer signing shall be furnished.

H. Bidder should be aware of the following statutes that represent "Truth in Contracting" laws:

- N.J.S.A. 2C:21-34, et seq. governs false claims and representations by bidders. It is a serious crime for the bidder to knowingly submit a false claim and/or knowingly make material misrepresentation.
- N.J.S.A. 2C:27-10 provides that a person commits a crime if said person offers a benefit to a public servant for an official act performed or to be performed by a public servant, which is a violation of official duty.
- N.J.S.A. 2C:27-11 provides that a bidder commits a crime if said person, directly or indirectly, confers or agrees to confer any benefit not allowed by law to a public servant.
- Bidder should consult the statutes or legal counsel for further information.

I. If not submitting a bid proposal in accordance with the attached instructions and specifications, the outside of the above stated envelope shall be plainly marked **"NO BID"** when being returned. If bidder wishes to remain on bid list, please mark **"NO BID - PLEASE RETAIN ON BID LIST"** on front page of this proposal. Failure to comply may result in bidder being dropped from bid list.

J. Contract shall be awarded to the lowest responsible bidder as declared by the County of Mercer. The contract awarded between the County of Mercer and the successful bidder shall establish the contractual obligation regarding specific items, specifications and services to be provided to the county.

K. Successful bidder shall not assign, transfer, convey sublet or otherwise dispose of the contract or any part thereof to anyone without the written consent of the County of Mercer.

L. The County of Mercer reserves the right in the event of unsatisfactory service to cancel the contract awarded to the successful bidder and procure the goods or services from other sources and hold the contractor responsible for any excess cost.

M. The successful bidder agrees that he will make no claim for additional payment or any other concession because of any misrepresentation or misunderstanding of the contract on his part, or of any failure to fully acquaint himself with any conditions relating to the contract.

N. Bidders are cautioned to fill in all information as requested on the proposal forms to serve as a basis for making awards. The county, without invalidating the contract, may order changes consisting of additions, deletions or modifications and the contract sum shall be adjusted accordingly.

P. Bidder shall list all deviations from the specifications as contained herein when returning proposal as specified.

Q. The bidder, if awarded a contract, agrees to protect, defend and save harmless the County of Mercer against any damage for the payment for the use of any patented material process, article or device that may enter into the manufacture, construction or form a part of the work covered by his contract, and he further agrees to indemnify and save harmless the County of Mercer from suits or actions of every nature and description brought against it, for or on account of any injuries or damages received or sustained by any parties, by, or from any acts of the contractor, his servants or agents.

R. Bidder must provide Certificate of insurance in a form and amount acceptable to the County of Mercer including General Liability, Automobile, Workman's Compensation and

such other coverage as may be deemed necessary by the County of Mercer for the work, services or goods being bid.

S. Bidder shall submit financial statements if requested showing its financial ability to perform the work being bid. The County reserves the right to require additional financial documentation prior to the award of bid if, in the opinion of the County, the financial statements submitted with the bid are deemed to be inadequate. Failure to comply with this requirement may result in being rejected at the option of the County.

T. BIDDERS SHALL PROVIDE TRADE SECRET OR PROPRIETARY INFORMATION UNDER SEPARATE COVER WITH THE BID RESPONSE.

U. SOURCE OF SPECIFICATIONS/BID PACKAGES Official County bid packages for routine goods and services are available from on the county website www.mercercounty.org at no cost to the vendor. All addenda are posted on this site. Potential bidders are cautioned that they are bidding at their own risk if a third party supplied the specifications that may or may not be complete. As such, The County is not responsible for third party supplied specifications.

V. The County reserves the right to purchase items from state contract or other county contracts, co-op vendors and/or in the open market, if such use serves the interest of the County. The County reserves the right to bid separately for any commodity.

INTERPRETATION AND ADDENDA, CHALLENGE TO SPECIFICATIONS

The bidder understands and agrees that its bid is submitted on the basis of the specifications prepared by the County. The bidder accepts the obligation to become familiar with these specifications.

Bidders are expected to examine the specifications and related documents with care and observe all their requirements. Ambiguities, errors or omissions noted by bidders should be promptly reported in writing to the Purchasing Agent. In the event the bidder fails to notify the County of such ambiguities, errors or omissions, the bidder shall be bound by the bid.

No oral interpretation of the meaning of the specifications will be made to any bidder. Every request for an interpretation shall be in writing, addressed to the Purchasing Agent. In order to be given consideration, written requests for interpretation must be received as least ten (10) days prior to the date fixed for the opening of the bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications, and will be distributed to all prospective bidders, in accordance with Statute. All addenda so issued shall become part of the contract documents, and shall be acknowledged by the bidder in the bid. The County's interpretations or corrections thereof shall be final.

If the amount shown in words and its equivalent figures do not agree, the written words shall be binding. Ditto marks are not considered writing or printing and shall not be used. In the event that there is a discrepancy between the unit prices and the extended totals, the unit prices shall prevail. In the event there is an error of the summation of the extended totals, the computation by the County of the extended totals shall govern.

Any prospective bidder who wishes to challenge a bid specification shall file such challenges in writing with the contracting agent no less than three business days prior to the opening of the bids. Challenges filed after that time shall be considered void and having no impact on the contracting unit or the award of contract.

PRE-BID CONFERENCE – REFER TO ADVERTISEMENT FOR BID FOR DATE AND TIME – IF REQUESTED

BRAND NAMES, STANDARDS OF QUALITY AND PERFORMANCE
Only manufactured and farm products of the United States, wherever available, shall be used on this contract in accordance with prevailing statutes.

Brand names and or descriptions used in this bid are to acquaint bidders with the type of commodity desired and will be used as a standard by which alternate or competitive materials offered will be judged. Competitive items must be equal to the standard described and be of the same quality of work. Variations between materials described and the materials offered are to be fully explained by the bidder on a separate sheet and submitted with the proposal form. Vendor's literature will not suffice in explaining exceptions to these specifications. In the absence of any changes by the bidder, it will be presumed and required that materials as described in the proposal be delivered.
It is the responsibility of the bidder to demonstrate the equivalency of item(s) offered. The County reserves the right to evaluate the equivalency of a product which, in its deliberations, meets its requirements.

The contractor shall hold and save harmless the County, its officers, agents, servants, and employees, from any liability of any nature and kind for or on account of the use of any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention or article furnished or used in the performance of this contract.

Wherever practical and economical to the County, it is desired that recycled or recyclable products be provided. Please indicate when recycled products are being offered.

In submitting its bid, the bidder certifies that the goods and services to be furnished will not infringe upon any valid patent or trademark and that the successful bidder shall, at its own expense, defend any and all actions or suits charging such infringement, and will save the County harmless from any damages resulting from such infringement.

MULTI-BRAND MANUFACTURER'S
Specifications for a contract item may include a specific manufacturer's brand and model number or equivalent. The product brand or brands referenced in the specifications shall be restricted to one brand produced or manufactured by a multi-brand commercial products manufacturer.

PRICING INFORMATION FOR PREPARATION OF BIDS
The County is exempt from any local, state or federal sales, use or excise tax.

Estimated Quantities (Open-End Contracts): The County has attempted to identify the item(s) and the estimated amounts of each item bid to cover its requirements; however, past experience shows

that the amount ordered may be different than that submitted for bidding. The right is reserved to decrease or increase the quantities specified in the specifications pursuant to N.J.A.C. 5:30-11.2 and 11.10. NO MINIMUM PURCHASE IS IMPLIED OR GUARANTEED.

Contractor shall be responsible for obtaining any applicable permits or licenses from any government entity that has jurisdiction to require the same. All bids submitted shall have included this cost.

Bidders shall insert prices for furnishing goods and services required by these specifications. Prices shall be net, including any charges for packing, crating, containers, etc. All transportation charges shall be fully prepaid by the contractor, F.O.B. destination and placement at locations specified by the County. As specified, placement may require inside deliveries. No additional charges will be allowed for any transportation costs resulting from partial shipments made for the contractor's convenience.

METHOD OF CONTRACT AWARD

The length of the contract shall be stated in the technical specifications. Pursuant to requirements of N.J.A.C. 5:30-5.1 et seq., any contract resulting from this bid shall be subject to the availability and appropriation of sufficient funds annually.

If the award is to be made on the basis of a base bid only, it shall be made to that responsible bidder submitting the lowest base bid. If the award is to be made on the basis of a combination of a base bid with selected options, it shall be made to that responsible bidder submitting the lowest net bid.

The County may also elect to award the contract on the basis of unit prices.

The form of contract shall be submitted by the County to the successful bidder. Terms of the specifications/bid package prevail. Bidder exceptions must be formally accepted by the County.

TERMINATION OF CONTRACT

If, through any cause, the contractor shall fail to fulfill in a timely and proper manner obligations under the contract or if the contractor shall violate any of the requirements of the contract, the County shall there upon have the right to terminate the contract by giving written notice to the contractor of such termination and specifying the effective date of termination. Such termination shall relieve the County of any obligation for balances to the contractor of any sum or sums set forth in the contract. County will pay only for goods and services accepted prior to termination.

Notwithstanding the above, the contractor shall not be relieved of liability to the County for damages sustained by the County by virtue of any breach of the contract by the contractor and the County may withhold any payments to the contractor for the purpose of compensation until such time as the exact amount of the damage due the County from the contractor is determined.

The contractor agrees to indemnify and hold the County harmless from any liability to subcontractors or suppliers concerning payment for work performed or goods supplied arising out of the lawful termination of the contract by the County under this provision.

In case of default by the contractor, the County may procure the goods or services from other sources and hold the contractor responsible for any excess cost.

The County of Mercer reserves the right, at its option, to terminate this contract upon giving thirty (30) days written notice to the contractor.

Continuation of the terms of the contract beyond the fiscal year is contingent on availability of funds in the following year's budget. In the event of unavailability of such funds, the County reserves the right to cancel the contract.

ACQUISITION, MERGER, SALE AND/OR TRANSFER OF BUSINESS, ETC.
It is understood by all parties that if, during the life of the contract, the contractor disposes of his/her business concern by acquisition, merger, sale and or/transfer or by any means convey his/her interest(s) to another party, all obligations are transferred to that new party. In this event, the new vendor will be required to submit all documentation/legal instruments that were required in the original bid/contract. Any change shall be approved by the County.

The contractor will not assign any interest in the contract and shall not transfer any interest in the same without the prior written consent of the County.

PAYMENT
No payment will be made unless duly authorized by the County of Mercer's authorized representative and accompanied by proper documentation. Payment will be made in accordance with the County of Mercer's policy and procedures.

TRANSITIONAL PERIOD
In the event services are terminated by contract expiration or by voluntary termination by either the Contractor or The County of Mercer, the Contractor shall continue all terms and conditions of said contract for a period not to exceed thirty (30) days at the County's request.

NEW JERSEY SALES TAX
In submitting a bid, the Contractor certifies that the total base bid set forth does not include any New Jersey Sales Tax, and he further certifies that in the event of a successful bid, bidder will only apply for an exemption for materials or supplies to be used in connection with County property.

Contractor's Exemption Purchase Certificate, Form ST-13, issued by the State of New Jersey Division of Taxation, Sales Tax Bureau, shall be completed and presented to his suppliers for material used to make any permanent change to a County Building on this contract.

http://www.state.nj.us/treasury/taxation/pdf/other_forms/sales/st13.pdf

STATISTICAL DATA REPORT
If requested, the contractor shall provide in writing to the County, a statistical data report identifying all goods and or services provided.

LATE FEE POLICY
The County of Mercer pays vouchers bi-weekly, thus vendors, in most cases are paid in less than 30 days, if the vendor has complied by responding promptly with delivery, a signed voucher and an original invoice. We can pay only for goods and services rendered and late fees and service charges are not appropriated for such purposes. All County employees are reminded that no one is authorized to sign a letter of credit or any other document that represents a legal commitment on the part of the County without a specific authorization from our governing body or through a

resolution that grants the same. All credit applications or similar forms are carefully read in Finance and terms the County does not agree to, are stricken.

TIE BIDS: Tie bids will be decided by the County of Mercer.

DEMONSTRATION AND SAMPLE
If so requested, the vendor shall provide demonstration. If so requested, the vendor shall submit a sample of the units or merchandise.

MANUFACTURERS' NAMES
Any manufacturers' names, trade names, brand names or catalog numbers used in the specifications are for the purpose of describing and establishing general quality levels. Such references are not intended to be restrictive. Bids will be considered for any brand, which meets or exceeds the quality of the specifications listed for any item.

AWARD/REJECTION
In accordance with N.J.S.A. 40A:11-24, all contracts will be awarded or all bids will be rejected within sixty (60) days of the receipt of bids unless vendor agrees to extend for a longer period of time.

AVAILABILITY OF FUNDS
Pursuant to statutory requirements, any contract resulting from this bid shall be subject to the availability and appropriation of sufficient funds annually.

MULTIPLE BIDS NOT ALLOWED
More than one bid from an individual, a firm or partnership, a corporation or association under the same or different names shall not be considered.

FAILURE TO ENTER CONTRACT
Should the bidder, to whom the contract is awarded, fail to enter into a contract within 21 days, Sundays and holidays excepted, the County of Mercer may then, at its option, retain the bidder's bid deposit/bond and accept the bid of the next lowest responsible bidder.

INQUIRIES
All questions and information pertaining to this proposal shall be directed to the Department of Purchasing at (609) 989-6710.

COMMUNICATIONS AFTER THE BID OPENING
It is highly improper for a bidder after bid opening to contact any representative of the County of Mercer to discuss the bids. The solicitation package contains all documents and instructions. These may be supplemented by any comments you wish to make. Such additional material and comments must be submitted with the bid. Should there be any questions concerning the bid submitted, you will be contacted by a representative of the County of Mercer and any discussion or contact will be limited to the questions of the representative.

INDEX RATE

If the County of Mercer desires to extend a contract under the provisions of N.J.S.A. 40A:11-15 or N.J.S.A. 18A:18A-42, the index rate is the basis to determine the appropriate increase in the contract price. The following are the requirements for using this provision: Contracts for services, the statutory length of which is for three years or less, may only include provisions for no more than one (1) two-year or two (2) one-year extensions. The original bid specifications and contract must include language that explains the possibility for an extension.

W-9

Successful bidder/respondent shall complete A W-9 Form and submit to the Purchasing Department prior to the contract award. The form is available at the following link: www.irs.gov/pub/irs-pdf/fw9.pdf

INVOICING

Awarded contractors shall provide detailed invoicing itemizing hours worked for each trade and trade rate. Materials shall be broken out. Reflecting the contractor's cost of materials and up charge. Proof of purchase is required to be submitted with invoicing.

SAFETY PROGRAM:

Observe all rules and regulations of the Federal, State, and local health officials, including regulations concerning construction safety and health standards. At the preconstruction meeting, submit to the County approval a written safety program that meets or exceeds the minimum requirements of the Contract and applicable State or Federal regulations. Include at a minimum the following:

1. **Description.** Describe in detail how the safety program is implemented and monitored. Provide guidelines for protecting personnel from hazards associated with Project operations and activities. Establish the policies and procedures for safety practices that are necessary for the Work to be in compliance with the requirements of OSHA and other State and Federal regulatory agencies with jurisdiction, rules, regulations, standards, or guidelines in effect at the time the Work is in progress.

2. **Certification, Responsibility, and Identification of Personnel.** Identify the qualified safety professional responsible for developing the safety program and provide that person's qualifications for developing the safety program including, but not be limited to, education, training, certifications, and experience in developing this type of safety program. Provide a certification, executed by the qualified safety professional that developed the safety program, stating that the safety program complies with the rules, regulations, standards, and guidelines in effect at the time the Work is in progress, of OSHA, and other applicable Federal, State, and local regulatory agencies having jurisdiction.

   Identify a safety officer and designate the on-site supervisory-level personnel responsible for implementing and monitoring the safety program until Acceptance and having the authority to take prompt corrective measures to eliminate hazards, including the authority to stop work. Include documentation of training provided to the on-site supervisory-level personnel. For work that requires a competent person as defined by OSHA, ensure that the person is capable of identifying existing and predictable hazards and has the authority to take prompt corrective measures to eliminate the hazards, including the authority to stop work. Include documentation of the qualifications of such competent persons identified, including certifications received.

3. **Elements of the Program.** Include information and procedures for the following elements:
   a. **Chain of Command.** Include the responsibilities of the management, supervisor, safety officer, and employees.
   b. **Traffic Control Coordinator.** Include the name and contact information.
   c. **Environmental Manager.** Include the name and contact information.
   d. **Local Emergency Telephone Numbers.** Include police, fire, medical
   e. **Procedures for Handling Emergencies.** Provide guidelines for handling emergencies, including emergency action plans for accidents involving death or serious injury, property damage, fires, explosions, and severe weather. Include the emergency contact information of the Contractor's personnel responsible for handling emergencies.
   f. **Training Topics.** Include regulatory and jobsite toolbox meetings. Include the documentation from the training and an attendance sheet for each.

g. **Contractor's Safety Rules.** Include housekeeping procedures and personal protective equipment requirements.
h. **Employee Disciplinary Policy.** Include the violation forms.
i. **Safety Checklists.** Include project safety-planning, emergency plans and procedures, documentation, and protective materials and equipment.
j. **Forms.** Include OSHA 300 Log
k. **Security Policy Guidelines.** Provide a copy for the County.
l. **Hazard Communication Program.** Provide the following:
    1. The location of and instructions for understanding the MSDS. Ensure that the location and instruction are available to anyone within the Project Limits.
    2. The person responsible for the hazard communication program and the method of informing personnel of the hazardous communication program. Include attendance sheets of hazard communication meetings.
    3. When performing work that generates airborne crystalline silica, include engineering and work practice controls to limit exposure levels to at or below the permissible exposure limit according to 29 CFR 1910.1000 Table Z-3. Ensure that the program includes employee training and respiratory protection measures according to 29 CFR 1910.134 and control of the area when the permissible exposure limit is exceeded. Provide a trained and competent person, according to 29 CFR 1926.30, within the Project Limits at all times when performing work that produces airborne crystalline silica.

m. **Additional Requirements.** Provide additional procedures for Project specific topics including:
    1. Compressed gas cylinders.
    2. Confined spaces.
    3. Cranes.
    4. Electrical.
    5. Equipment operators.
    6. Fall protection.
    7. Hand and power tools.
    8. Hearing conservation.
    9. Highway safety.
    10. Lead.
    11. Lock out/tag out.
    12. Materials handling, storage, use, and disposal.
    13. Night work.
    14. Personal protective equipment.
    15. Project entry and exit.
    16. Respiratory protection.
    17. Sanitation.
    18. Signs, signals, and barricades.
    19. Subcontractors.
    20. Trenching.

The Contractor is responsible for implementing, monitoring, updating, and revising the safety program until Acceptance. Submit updates and revisions to the safety program to the County for approval when new information, new practices or procedures, or changing site and

environmental conditions necessitate modifications to protect site personnel. Maintain a copy of the updated safety program, including the appropriate documentation associated with each element, within the Project Limits so that it is available to workers and other authorized persons entering the Project Limits. Provide program updates to County.

The Contractor is responsible for safety in all aspects, and as set forth in the Insurance and Indemnification Agreement, shall defend and indemnify the County for any failure or breach to comply with the rules, regulations, standards, and guidelines in effect at the time the Work is in progress, of OSHA, and other applicable Federal, State, and local regulatory agencies having jurisdiction pertaining to the Contractor's safety program.

STATUTORY REQUIREMENTS
REQUIRED AFFIRMATIVE ACTION EVIDENCE
No firm may be issued a contract unless they comply with the affirmative action regulations of P.L. 1975, c. 127, as amended from time to time.

Goods And Services (including professional services) Contracts
Each contractor shall submit to the public agency, after notification of award but prior to execution of a goods and services contract, one of the following three documents:

- A photocopy of the Federal Letter of Affirmative Action Plan Approval, or;
- A photocopy of a Certificate of Employee Information Report; or
- A photocopy of an Employee Information Report (Form AA302) which is available upon request.

Maintenance/Construction Contracts
After notification of award, but prior to signing the contract, the contractor shall submit to the public agency compliance officer and the Division of Contract Compliance and Equal Employment Opportunity in Public Contracts (Division) an initial project workforce report (Form AA201) provided to the public agency by the Division for distribution to and completion by the contractor, in accordance with N.J.A.C. 17:27-7.

AMERICANS WITH DISABILITIES ACT OF 1990
Discrimination on the basis of disability in contracting for the purchase of goods and services is prohibited. Bidders are required to read Americans With Disabilities language that is included in this specification and agree that the provisions of Title II of the Act are made a part of the contract. The contractor is obligated to comply with the Act and to hold the County harmless.

STATEMENT OF CORPORATION OWNERSHIP 52:25-24.2. BIDDERS TO SUPPLY STATEMENT OF OWNERSHIP OF 10% INTEREST IN CORPORATION OR PARTNERSHIP
No corporation or partnership shall be awarded any contract nor shall any agreement be entered into for the performance of any work or the furnishing of any materials or supplies, the cost of which is to be paid with or out of any public funds, by the State, or any county, municipality or school district, or any subsidiary or agency of the State, or of any county, municipality or school district, or by any authority, board, or commission which exercises governmental functions, unless prior to the receipt of the bid or accompanying the bid, of said corporation or said partnership, there is submitted a statement setting forth the names and addresses of all stockholders in the corporation or partnership who own 10% or more of its stock, of any class or of all individual partners in the partnership who own a 10% or greater interest therein, as the case may be. If one or more such stockholder or partner is itself a corporation or partnership, the stockholders holding 10% or more of that corporation's stock, or the individual partners owning 10% or greater interest in that partnership, as the case may be, shall also be listed. The disclosure shall be continued until names and addresses of every noncorporate stockholder, and individual partner, exceeding the 10% ownership criteria established in this act, has been listed. Failure to submit a stockholder disclosure document shall result in rejection of the bid.

PROOF OF BUSINESS REGISTRATION P.L. 2009, c.315

Reforms Business Registration Certificate Filing; permits filing prior to award of contracts if not filed with bid. Effective with bids received and contracts awarded after January 18, 2010, this law removes the requirement of the Local Public Contracts Law (N.J.S.A. 40A:11-23.2) that required a bid to be rejected if the bidder failed to include a BRC with the bid, even though it may have been the otherwise lowest responsible bid. The law now allows the BRC to be filed anytime prior to award of the contract and the bidder had to have obtained the BRC prior to receipt of bids. This permits the BRC to be required with a bid, or submitted subsequently. If a BRC is required in a bid, but not submitted with the bid, it would an immaterial defect; curable by being filed prior to award of the contract. A BRC is obtained from the New Jersey Division of Revenue. Information on obtaining a BRC is available on the internet at www.nj.gov/njbgs or by phone at (609) 292-1730.

NEW JERSEY WORKER AND COMMUNITY RIGHT TO KNOW ACT

The manufacturer or supplier of chemical substances or mixtures shall label them in accordance with the N.J. Worker and Community Right to Know Law N.J.S.A. 34:5A-1 and N.J.A.C. 8:59. Containers that the law and rules require to be labeled shall show the Chemical Abstracts Service number of all the components and the chemical name. Further, all applicable Material Safety Data Sheets (MSDS) - hazardous substance fact sheet - must be furnished.

PREVAILING WAGE ACT

Pursuant to N.J.S.A. 34:11-56.25 et seq. contractors on projects for public work shall adhere to all requirements of the New Jersey Prevailing Wage Act. The contractor shall be required to submit a certified payroll record to the owner within ten (10) days of the payment of the wages. The contractor is also responsible for obtaining and submitting all subcontractors' certified payroll records within the aforementioned time period. The contractor shall submit said certified payrolls in the form set forth in N.J.A.C. 12:60-6.1. **P.L. 2009, c.249 (A-4268/S-3095):** Extends prevailing wage requirements to contracts for "maintenance-related projects" over $50,000. It is the contractor's responsibility to obtain any additional copies of the certified payroll form to be submitted by contacting the New Jersey Department of Labor and Workforce Development, Division of Workplace Standards.
Additional information is available at www.state.nj.us/labor/lsse/lspubcon.html or at the following:

Public Contracts Section
Office of Wage and
Hour Compliance
CN 389
Trenton, New Jersey 08625-0389
Telephone number: (609) 292-2259

THE PUBLIC WORKS CONTRACTOR REGISTRATION ACT

N.J.S.A. 34:11-56.48 et seq. requires that a general or prime contractor and any listed subcontractors named in the contractor's bid proposal shall possess a certificate *at the time the bid proposal is submitted*. After bid proposals are received and prior to award of contract, the successful contractor shall submit a copy of the contractor's certification along with those of all listed subcontractors. All non-listed subcontractors and lower tier sub-subcontractors shall be registered prior to starting work on the project. It is the general contractor's responsibility that all non-listed sub-contractors at any tier have their certificate prior to starting work on the job.

PAY TO PLAY

Starting in January, 2007, business entities are advised of their responsibility to file an annual disclosure statement of political contributions with the New Jersey Election Law Enforcement Commission (ELEC) pursuant to N.J.S.A. 19:44A-20.27 if they receive contracts in excess of $50,000 from public entities in a calendar year. Business entities are responsible for determining if filing is necessary. Additional information on this requirement is available from ELEC at 888-313-3532 or at www.elec.state.nj.us.

PROMPT PAYMENT OF CONSTRUCTION CONTRACTS P.L. 2006, C. 96

In compliance with N.J.S.A. 2A:30A-1 et seq., the County of Mercer shall impose the following payment process:

The County of Mercer shall pay the submitted bill not more than 30 calendar days after the receipt of the bill by the County if the vendor has performed in accordance with the contract and the work has been approved and certified by the County. The billing shall be deemed "approved" and "certified" 20 calendar days after the owner receives it, unless the County provides, before the end of the 20-day period, a written statement of the amount withheld and the reason for withholding payment.

PROCESS OF ALTERNATE DISPUTE RESOLUTION

Contract documents entered into in accordance with the provisions of P.L.1971, c.198 (C.40A:11-1 et seq.) after the effective date of P.L.1997, c.371 (C.40A:11-50) shall provide that disputes arising under the contract shall be submitted to a process of resolution pursuant to alternative dispute resolution practices, such as mediation, binding arbitration or non-binding arbitration pursuant to industry standards, prior to being submitted to a court for adjudication. It is understood that the County of Mercer shall have the right to request mediation if services being provided are deemed deficient in any way.

SOLID WASTE CONTRACT P.L. 2009, c. 88

The law requires the contractor (or any subcontractor) to keep records and file with the public agency a wage payment report for employees under the contract that are engaged in solid waste or recyclable "collection and transportation."

PRICE ADJUSTMENT FOR ASPHALT CEMENT AND FUEL P.L. 2009, c.187 CONSTRUCTION PROJECTS

Effective with contracts executed after May 1, 2010, the law follows procedures used by the State Department of Transportation to allow for increases and decreases in asphalt and fuel prices over the course of large construction contracts. The calculation is based upon 2007 NJDOT Specifications – Division 150 Contract Requirements, Section 160.01 through 160.03.

The law requires that paving contracts involving more than 1,000 tons of hot mix asphalt include a contract provision that allows for price adjustments in the cost of asphalt. Fuel price adjustments are based on DOT standards for the type of construction equipment and the work done by different equipment. For fuel price adjustments, at least 500 gallons of fuel based on the DOT equipment standards are required for a price adjustment, and then, only in those months when the price fluctuated more than five percent.

DOT maintains a web site of index rates for asphalt and fuel that are adjusted monthly. The law provides that when the quantity or equipment use thresholds are reached, fuel price adjustments are made, using the change in index rate from the time of bidding to when the work was performed. The change is treated as a "pay item" in construction contracts.

RECORDS FOR THE NEW JERSEY STATE COMPTROLLER

Pursuant to N.J.S.A. 52:15C-14(d), relevant records of private vendors or other persons entering into contracts with the County are subject to audit or review by the New Jersey Office of the State Comptroller. Therefore, the Contractor shall maintain all documentation related to products, transactions or services under this contract for a period of five years from the date of final payment. Such records shall be made available to the New Jersey Office of the State Comptroller upon request.

P.L. 2012 BID OR PROPOSAL PROHIBITED

C.52:32-57 "P.L. 2012, c.25 prohibits State and local public contracts with persons or entities engaging in certain investment activities in energy or finance sectors of Iran."

HOMELAND SECURITY GRANT PROCUREMENT: EMERGENCY RESPONDER EQUIPMENT PURCHASE PROGRAM, LOCAL FINANCE NOTICE 2009-20

Mercer County, consistent with LFN 2009-20 authorizes all counties and municipalities in the State of New Jersey to utilize contracts awarded by the County of Mercer for the Procurement of federal homeland security goods and services. The procurement must be funded through the New Jersey Office of Homeland Security and Preparedness; therefore, any county may buy under any other county's existing contract, under the same terms and conditions, and with the approval of the County of Mercer and vendor. The County of Mercer Freeholder Board must approve the use of the contract by other counties through either a generic resolution permitting other counties to use all contracts or on a case-by-case basis. The resolution shall reference Local Finance Notice 2005-14, the county's name and bid number.

BID SECURITY AND BONDING REQUIREMENTS
The following provisions, if indicated by an (x), shall be applicable to this bid and be made a part of the bidding documents:

A. ☒ BID GUARANTEE
Bidder shall submit with the bid a certified check, cashier's check or bid bond in the amount of ten percent (10%) of the total price bid, but not in excess of $20,000, payable unconditionally to the County. When submitting a Bid Bond, it shall contain Power of Attorney for full amount of Bid Bond from a surety company authorized to do business in the State of New Jersey and acceptable to the County. The check or bond of the unsuccessful bidder(s) shall be returned pursuant to N.J.S.A. 40A:11-24a. The check or bond of the bidder to whom the contract is awarded shall be retained until a contract is executed and the required performance bond or other security is submitted. The check or bond of the successful bidder shall be forfeited if the bidder fails to enter into a contract pursuant to N.J.S.A. 40A:11-21. Failure to submit a bid guarantee shall result in rejection of the bid.

B. ☒ CONSENT OF SURETY

Bidder shall submit with the bid a Certificate (Consent of Surety) with Power of Attorney for full amount of bid price from a Surety Company authorized to do business in the State of New Jersey and acceptable to the County stating that it will provide said bidder with a Performance Bond in the full amount of the bid. This certificate shall be obtained in order to confirm that the bidder to whom the contract is awarded will furnish Performance and Payment Bonds from an acceptable surety company on behalf of said bidder, any or all subcontractors or by each respective subcontractor or by any combination thereof which results in performance security equal to the total amount of the contract, pursuant to N.J.S.A. 40A:11-22.

Failure to submit a consent of surety form shall result in rejection of the bid.

C. ☒ PERFORMANCE BOND

Bidder shall simultaneously with the delivery of the executed contract, submit an executed bond in the amount of one hundred percent (100%) of the acceptable bid as security for the faithful performance of this contract. Failure to submit this with the executed contract shall be cause for declaring the contract null and void pursuant to N.J.S.A. 40A:11-22.

Immigration and Naturalization Laws and Criminal Background Check

Vendors must comply with all Immigration and Naturalization Laws as are currently in force on each potential employee to work under this contract on County of Mercer.

If the County requires a background check, the vendor must contact the New Jersey State Police to perform a Criminal Background Check **on each potential employee to work under this contract on County of Mercer property.** A copy of the results of the Criminal Background Check must be provided to the County of Mercer at least ten (10) days prior to an employee being permitted access to County of Mercer property. The County of Mercer will notify the vendor if a proposed vendor employee will not be permitted to work under this contract within ten (10) work days following receipt of the results. If the County of Mercer does not notify the vendor of such exclusion within ten (10) days the vendor may assign said employee to work under the contract.

The vendor must provide the results of a Criminal Background Check on its employees working under the contract on County of Mercer property every twelve (12) months.

Please access the following website for Instructions For Obtaining a Criminal History Record: http://www.state.nj.us/lps/njsp/about/serv_chrc.html

VEHICLE AND EQUIPMENT TRAINING REQUIREMENTS

AWARDED CONTRACTOR SHALL PROVIDE OPERATING TRAINING BY A MANUFACTURER APPROVED TRAINING INSTRUCTOR UPON DELIVERY OF EQUIPMENT OR VEHICLE. VENDORS MUST SPECIFY THE MANUFACTURER'S CUT-OFF DATE FOR CURRENT VEHICLE OR EQUIPMENT. THE VENDOR MUST SPECIFY EXCEPTIONS IF PROVIDING A LATER MODEL AFTER THE CUT-OFF DATE.

Operator parts and service manuals shall be provided by the awarded contractor. The vendor will pick up vehicle or equipment for all warranty work. The vendor will return the vehicle after repairs are completed for inspection.

Vehicle/Equipment will be licensed and titled to the County of Mercer with registration and tags included.

Manufacturer's Cut-off Date_____

Comply? **YES** ☐ **NO** ☐

Exceptions:

_____
_____
_____
_____
_____

_____
SIGNATURE AND DATE

Executive Order 98 - 1

WHEREAS it is in the interests of the county to purchase goods and services from responsible contractors that provide quality and services at a competitive price; and

WHEREAS the county does not desire to do business with companies that compete by exploiting their workforce rather than by running efficient, reliable and responsible operations; and

WHEREAS, the county purchases items of apparel and textiles, which is an industry in which many scandals have been uncovered in which producers maintain sweatshop conditions, such as paying poverty wages, violating workplace regulations, and suppressing worker rights; and

WHEREAS, such conditions in apparel and other industries threaten the jobs and working conditions of all workers; and

WHEREAS, it is the policy of the county that it should not purchase, rent or lease goods or services produced under such conditions; and

WHEREAS, sweatshop conditions flourish when the conditions of workers are hidden; and

WHEREAS, pressure from institutional purchasers such as governments is one of the most effective ways to combat sweatshop production,

THEREFORE IT IS HEREBY ORDERED, that it is the policy of the county that it should not purchase, lease, rent or take on consignment goods or services produced under sweatshop conditions, and that the following guidelines, criteria and procedures are adopted:

Section 1: The procedures and guidelines set forth herein shall apply to items of apparel and textiles, such as clothing, headwear, footwear, linens and fabric, as well as to any other industry designated by the county executive as vulnerable to sweatshop competition.

Section 2: In order to ensure that the county contracts with vendors that have responsible employment practices, the following criteria will be used in contracting for goods and services:

A. Preference will be given whenever possible to goods or services produced in the U.S.A.

B. The county will whenever possible only contract with vendors with responsible employment practices, as defined in Section 3.B below.

Section 3: The county shall require of every bidder for contracts covered under Section 1:

A. Disclosure of all sub-contractors and sites. The bidder or vendor shall identify the name and address of each subcontractor to be used, as well as the address of all locations, including sub-contractor locations, substantially involved in providing goods or services covered by this act. Such information will be considered public information.

B. Certification of Compliance. The bidder or vendor shall certify each location, including sub-contractor locations, substantially involved in producing or distributing goods or services covered by this act meets the following standards:

1. Compensation. Wage and benefit levels must be sufficient to meet basic needs and provide some discretionary income for a family of 4 (a "living wage").

2. Rights. The company respects workers' rights to speak up about working conditions, without fear or retaliation, and to form unions of their own choosing without employer resistance. Due process and just cause procedures are used for discipline or discharge, with recourse to arbitration. The company complies with all laws, regulations and standards governing the workplace. The company does not use child labor, forced labor, corporal punishment. The company does not discriminate in hiring, promotion or compensation on the basis of race, national origin, religion, gender, sexual preference, union affiliation, or political affiliation.

3. Safety and Health. The factory provides a safe and healthy work environment.

Section 4: The county, at its discretion, may refuse to award a contract or terminate a contract or ban a vendor from holding contracts with the county for filing false information or for failing to file information required under this act. The county may, at its discretion, require correction and remediation of violations of the standards listed in section 3.B prior to renewing commerce with the contractor. The county may require further proof of compliance with the standards listed in Section 3.B. Upon request the contractor or subcontractor will make all relevant records available to the county or its designee.

I have read Executive Order 98-1 and agree to comply with its requirements.

DATE:_____

SIGNED_____

POSITION_____

COMPANY_____

AMERICANS WITH DISABILITIES ACT OF 1990
Equal Opportunity for Individuals with Disability

The contractor and the County of Mercer, (hereafter "owner") do hereby agree that the provisions of Title 11 of the Americans With Disabilities Act of 1990 (the "Act") 42 U.S.C. S12101 et seq., which prohibits discrimination on the basis of disability by public entities in all services, programs, and activities provided or made available by public entities, and the rules and regulations promulgated pursuant there unto, are made a part of this contract. In providing any aid, benefit, or service on behalf of the owner pursuant to this contract, the contractor agrees that the performance shall be in strict compliance with the Act. In the event that the contractor, its agents, servants, employees, or subcontractors violate or are alleged to have violated the Act during the performance of this contract, the contractor shall defend the owner in any action or administrative proceeding commenced pursuant to this Act. The contractor shall indemnify, protect, and save harmless the owner, its agents, servants, and employees from and against any and all suits, claims, losses, demands, or damages, of whatever kind or nature arising out of or claimed to arise out of the alleged violation. The contractor shall, at its own expense, appear, defend, and pay any and all charges for legal services and any and all costs and other expenses arising from such action or administrative proceeding or incurred in connection therewith. In any and all complaints brought pursuant to the owner's grievance procedure, the contractor agrees to abide by any decision of the owner which is rendered pursuant to said grievance procedure. If any action or administrative proceeding results in an award of damages against the owner, or if the owner incurs any expense to cure a violation of the ADA which has been brought pursuant to its grievance procedure, the contractor shall satisfy and discharge the same at its own expense.

The owner shall, as soon as practicable after a claim has been made against it, give written notice thereof to the contractor along with full and complete particulars of the claim, If any action or administrative proceeding is brought against the owner or any of its agents, servants, and employees, the owner shall expeditiously forward or have forwarded to the contractor every demand, complaint, notice, summons, pleading, or other process received by the owner or its representatives.

It is expressly agreed and understood that any approval by the owner of the services provided by the contractor pursuant to this contract will not relieve the contractor of the obligation to comply with the Act and to defend, indemnify, protect, and save harmless the owner pursuant to this paragraph.

It is further agreed and understood that the owner assumes no obligation to indemnify or save harmless the contractor, its agents, servants, employees and subcontractors for any claim which may arise out of their performance of this Agreement. Furthermore, the contractor expressly understands and agrees that the provisions of this indemnification clause shall in no way limit the contractor's obligations assumed in this Agreement, nor shall they be construed to relieve the contractor from any liability, nor preclude the owner from taking any other actions available to it under any other provisions of the Agreement or otherwise at law.

EXCERPTS FROM THE EEOC SEXUAL HARASSMENT GUIDELINES

PART 1604 -- GUIDELINES ON DISCRIMINATION BECAUSE OF SEX

1604.11 Sexual Harassment

(a) Harassment on the basis of sex is a violation of Sec. 703 of Title VII (of the Civil Rights Act of 1964). Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when (1) submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment, (2) submission to or rejection of such conduct by an individual is used as the basis for employment decisions affecting such individual, or or (3) such conduct has the purpose or effect of unreasonably interfering with an individual's work performance or creating an intimidating, hostile or offensive working environment.

(b) In determining whether alleged conduct constitutes sexual harassment, The Commission (EEOC) will look at the record as a whole and at the totality of the circumstances, such as the nature of the sexual advances and the context in which the alleged incidents occurred. The determination of the legality of a particular action will be made from the facts, on a case by case basis.

(c) Applying general Title VII principles, an employer, employment agency, joint apprenticeship committee or labor organization (hereinafter collectively referred to as "employer") is responsible for its acts and those of its agents and supervisory employees with respect to sexual harassment regardless of whether the specific acts complained of were authorized or even forbidden by the employer and whether the employer knew or should have known of their occurrence. The Commission will examine the circumstances of the particular employment relationship and the job functions performed by the individual in determining whether an individual in determining whether an individual acts in either a supervisory or agency capacity.

(d) With respect to conduct between fellow employees, employer is responsible for acts of sexual harassment in the workplace where the employer (or its agents or supervisory employees) knows or should have known of the conduct, unless it can be show that it took immediate and appropriate corrective action.

(e) An employer may also be responsible for the acts of non-employees, with respect to sexual harassment of employees in the workplace, where the employer (or its agents or supervisory employees) knows or should have known of the conduct and fails to take immediate and appropriate corrective action. In reviewing these cases the Commission will consider the extent of the employer's control and any other legal responsibility, which the employer may have with respect to the conduct of such non-employees.

For those wishing the complete context of the EEOC Guidelines, contact the Office of Economic Development and Sustainability at 609-989-6555, 640 South Broad Street, Trenton, NJ 08650-0068.

MERCER COUNTY'S POLICY ON SEXUAL HARASSMENT

The County of Mercer is committed to the principle that sexual harassment of employees is an abuse of authority and constitutes prohibited, unprofessional and unacceptable conduct. Sexual harassment is defined as unwelcome sexual advances, requests for sexual favors and other verbal or physical conduct of a sexual nature when:

A.) Submission to such conduct is explicitly or implicitly made a term or condition of an individual's employment, or

B.) Submission to or rejection of such conduct by an individual is used as the basis for employment decisions affecting such individual, or

C.) Such conduct has the purpose or effect of interfering unreasonably with an individual's performance or creating an intimidating, hostile or offensive environment.

The County of Mercer is committed to maintaining a working environment that does not condone acts of sexual harassment. Immediate and corrective action will be taken when case of sexual harassment are identified in the workplace.

I have read the above and will comply with the County's policy.

NAME_____TITLE_____

COMPANY_____

ADDRESS_____

TELEPHONE_____

INSURANCE AND INDEMNIFICATION REQUIREMENTS

If it becomes necessary for the contractor, either as principal or by agent or employee, to enter upon the premises or property of the County in order to construct, erect, inspect, make delivery or remove property hereunder, the contractor hereby covenants and agrees to take use, provide and make all proper, necessary and sufficient precautions, safeguards, and protection against the occurrence of happenings of any accidents, injuries, damages, or hurt to person or property during the course of the work herein covered and be his/her sole responsibility.

The contractor further covenants and agrees to indemnify and save harmless the County from the payment of all sums of money or any other consideration(s) by reason of any, or all, such accidents, injuries, damages, or hurt that may happen or occur upon or about such work and all fines, penalties and loss incurred for or by reason of the violation of any County regulation, ordinance or the laws of the State, or the United States while said work is in progress.

The contractor shall maintain sufficient insurance to protect against all claims under Workers Compensation as statutorily required, General Liability in the amount of $1,000,000.00 single occurrence and $2,000,000.00 general aggregate and Automobile Insurance in the amount of $1,000,000.00 combined single limit. Vendors are responsible to provide updated certificates as policies renew. Depending upon the scope of work and goods or services provided, specific types of insurance may not be required. The Mercer County Division of Insurance and Property Management will make this determination.

In all cases where a Certificate of Insurance is required, the County of Mercer and Mercer County Park Commission (if applicable) is to be named as an additional insured and named as the certificate holder as follows: "County of Mercer, 640 South Broad Street, Trenton, NJ 08611". The Certificate shall contain a 30-day notice of cancellation. The language shall state the following:

"The County of Mercer and Mercer County Park Commission (if applicable) named as additional insurance."

INDEMNIFICATION AND HOLD HARMLESS CLAUSE

Contractor shall indemnify, defend and save harmless the County from and against any and all loss cost (including attorneys' fees), damages, expenses and liability (including statutory liability and liability under Workers' Compensation Laws) in connection with claims for damages as a result of injury or death of any person or property damage to any property sustained by Contractor or all other persons which arise from or in any manner grow out of any act or negligence on or about the said premises by the Contractor, their partners, agents, employees, customers, invitees, contractors, subcontractors, sub-subcontractors, vendors and the County. This indemnification clause includes any and all claims and costs of same against the County except for the sole negligence of the County pursuant to N.J.S.A. 2A:40A-1. Further, this indemnification clause includes any and all claims and costs of same against the County involving environmental impairment.

WAIVER OF SUBROGATION CLAUSE

Contractor, as a material part of the consideration to be rendered to the County, hereby waives all claims against the County for damages to the goods, wares and merchandise in, upon or about said premises, and contractor will hold the County exempt and harmless from any damage and injury to any such person or to the goods, wares or merchandise of any such person, arising from the use of the premises by the contractor or from failure of the contractor to keep the premises in good condition and repair as herein provided.

_____

Dated and Signed

INSURANCE CERTIFICATE

PLEASE TAKE NOTE OF THE FOLLOWING CHANGE

As you may be aware, there has been a recent change to the ACCORD insurance certificate which precludes placing the number of days for cancellation notification in the lower left hand box. You may fulfill the requirement for a 30-day notice of cancellation for a County of Mercer contract in any one of the following ways:

1. indicate a 30-day notice of cancellation in the Description of Operations box at the bottom of the certificate
2. indicate a 30-day notice of cancellation on a separate page
3. provide a copy of the cancellation clause from the policy (you do not need to provide a copy of the entire policy, only the page(s) referencing the cancellation clause)

If you need further clarification on this or other insurance certificate issues, please contact the Insurance and Property Management Office at 609-989-6655.

BACKGROUND INFORMATION FORM

The following information is used by the Mercer County Division of Affirmative Action in the compilation of reports and research. The provision of this information will not affect the determination of this contract/agreement.

Name of Company _____

Address _____

Telephone _____

Nature of Business _____

The ownership of the above referenced business is considered:

1.	Black	( )	2.	Caucasian	( )
3.	Hispanic	( )	4.	Asian American	( )
5.	American Indian	( )	6.	Other	( )
7.	Female	( )			

51% of the business must be owned and controlled by the ethnic group claimed.

Signed _____ Title _____ Date_____

MERCER COUNTY IS AN EQUAL OPPORTUNITY EMPLOYER

EEO/AFFIRMATIVE ACTION COMPLIANCE NOTICE
N.J.S.A. 10:5-31 and N.J.A.C. 17:27
GOODS, PROFESSIONAL SERVICE AND GENERAL SERVICE CONTRACTS

All successful bidders are required to submit evidence of appropriate affirmative action compliance to the County and Division of Public Contracts Equal Employment Opportunity Compliance. During a review, Division representatives will review the County files to determine whether the affirmative action evidence has been submitted by the vendor/contractor. Specifically, each vendor/contractor shall submit to the County, prior to execution of the contract, one of the following documents:

Goods and General Service Vendors
1. Letter of Federal Approval indicating that the vendor is under an existing Federally approved or sanctioned affirmative action program. A copy of the approval letter is to be provided by the vendor to the County and the Division. This approval letter is valid for one year from the date of issuance.

Do you have a federally-approved or sanctioned EEO/AA program? Yes ☐ No ☐
If yes, please submit a photostatic copy of such approval.

2. A Certificate of Employee Information Report (hereafter "Certificate"), issued in accordance with N.J.A.C. 17:27-1.1 et seq. The vendor must provide a copy of the Certificate to the County as evidence of its compliance with the regulations. The Certificate represents the review and approval of the vendor's Employee Information Report, Form AA-302 by the Division. The period of validity of the Certificate is indicated on its face. Certificates must be renewed prior to their expiration date in order to remain valid.

Do you have a State Certificate of Employee Information Report Approval? Yes ☐ No ☐
If yes, please submit a photostatic copy of such approval.

3. The successful vendor shall complete an Initial Employee Report, Form AA-302 and submit it to the Division with $150.00 Fee and forward a copy of the Form to the County. Upon submission and review by the Division, this report shall constitute evidence of compliance with the regulations. Prior to execution of the contract, the EEO/AA evidence must be submitted.

The successful vendor may obtain the Affirmative Action Employee Information Report (AA302) on the Division website www.state.nj.us/treasury/contract_compliance.

The successful vendor(s) must submit the AA302 Report to the Division of Public Contracts Equal Employment Opportunity Compliance, with a copy to Public Agency.

The undersigned vendor certifies that he/she is aware of the commitment to comply with the requirements of N.J.S.A. 10:5-31 and N.J.A.C. 17:27 and agrees to furnish the required forms of evidence.

The undersigned vendor further understands that his/her bid shall be rejected as non-responsive if said contractor fails to comply with the requirements of N.J.S.A. 10:5-31 and N.J.A.C. 17:27.

COMPANY: _____ SIGNATURE: _____

PRINT NAME:_____TITLE: _____

DATE: _____

(REVISED 4/10)
EXHIBIT A

MANDATORY EQUAL EMPLOYMENT OPPORTUNITY LANGUAGE
N.J.S.A. 10:5-31 et seq. (P.L. 1975, C. 127)
N.J.A.C. 17:27

GOODS, PROFESSIONAL SERVICE AND GENERAL SERVICE CONTRACTS

During the performance of this contract, the contractor agrees as follows:

The contractor or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Except with respect to affectional or sexual orientation and gender identity or expression, the contractor will ensure that equal employment opportunity is afforded to such applicants in recruitment and employment, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Such equal employment opportunity shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Public Agency Compliance Officer setting forth provisions of this nondiscrimination clause.

The contractor or subcontractor, where applicable will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex.

The contractor or subcontractor will send to each labor union, with which it has a collective bargaining agreement, a notice, to be provided by the agency contracting officer, advising the labor union of the contractor's commitments under this chapter and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

The contractor or subcontractor, where applicable, agrees to comply with any regulations promulgated by the Treasurer pursuant to N.J.S.A. 10:5-31 et seq., as amended and supplemented from time to time and the Americans with Disabilities Act.

The contractor or subcontractor agrees to make good faith efforts to meet targeted county employment goals established in accordance with N.J.A.C. l7:27-5.2.

The contractor or subcontractor agrees to inform in writing its appropriate recruitment agencies including, but not limited to, employment agencies, placement bureaus, colleges, universities, and labor unions, that it does not discriminate on the basis of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex, and that it will discontinue the use of any recruitment agency which engages in direct or indirect discriminatory practices.

The contractor or subcontractor agrees to revise any of its testing procedures, if necessary, to assure that all personnel testing conforms with the principles of job-related testing, as established by the statutes and court decisions of the State of New Jersey and as established by applicable Federal law and applicable Federal court decisions.

In conforming with the targeted employment goals, the contractor or subcontractor agrees to review all procedures relating to transfer, upgrading, downgrading and layoff to ensure that all such actions are taken without regard to age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex, consistent with the statutes and court decisions of the State of New Jersey, and applicable Federal law and applicable Federal court decisions.

The contractor shall submit to the public agency, after notification of award but prior to execution of a goods and services contract, one of the following three documents:

Letter of Federal Affirmative Action Plan Approval

Certificate of Employee Information Report

Employee Information Report Form AA302, electronically provided by the Division and distributed to the public agency through the Division's website at:
www.state.nj.us/treasury/contract_compliance

The contractor and its subcontractors shall furnish such reports or other documents to the Division of Public Contracts Equal Employment Opportunity Compliance as may be requested by the office from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Division of Public Contracts Equal Employment Opportunity Compliance for conducting a compliance investigation pursuant to **Subchapter 10 of the Administrative Code at N.J.A.C. 17:27**.

STATEMENT OF CORPORATION OWNERSHIP 52:25-24.2. BIDDERS TO SUPPLY STATEMENT OF OWNERSHIP OF 10% INTEREST IN CORPORATION OR PARTNERSHIP

No corporation or partnership shall be awarded any contract nor shall any agreement be entered into for the performance of any work or the furnishing of any materials or supplies, the cost of which is to be paid with or out of any public funds, by the State, or any county, municipality or school district, or any subsidiary or agency of the State, or of any county, municipality or school district, or by any authority, board, or commission which exercises governmental functions, unless prior to the receipt of the bid or accompanying the bid, of said corporation or said partnership, there is submitted a statement setting forth the names and addresses of all stockholders in the corporation or partnership who own 10% or more of its stock, of any class or of all individual partners in the partnership who own a 10% or greater interest therein, as the case may be. If one or more such stockholder or partner is itself a corporation or partnership, the stockholders holding 10% or more of that corporation's stock, or the individual partners owning 10% or greater interest in that partnership, as the case may be, shall also be listed. The disclosure shall be continued until names and addresses of every noncorporate stockholder, and individual partner, exceeding the 10% ownership criteria established in this act, has been listed. Failure to submit a stockholder disclosure document shall result in rejection of the bid.

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, _____ as Principal, and _____ as Surety, is hereby held and firmly bound unto _____ as Owner, in the Penal Sum of _____ ($_____) for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed this _____ day of _____ 20__

The condition of the above obligation is such that whereas the Principal has submitted to _____ _____ a certain bid, attached hereto and hereby made a part of hereof, to enter into a contract in writing for the _____

NOW THEREFORE,

A) If said bid shall be rejected or in the alternative,

B) If said bid shall be accepted and the Principal shall execute and deliver a contract in the form of contract attached hereto (properly completed in accordance with said bid) and shall furnish a bond for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in the connection therewith, and shall in all other respects perform the agreement created by the acceptance of said bid,

Then this obligation shall be void, otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Owner may accept such bid; and Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

_____
Principal

BY: _____
Witness

_____

_____
Surety

BY: _____
Witness

_____
Attorney-in-Fact

CONSENT OF SURETY

KNOW ALL MEN BY THESE PRESENTS, that for and in consideration of the sum of $1.00, lawful money of the United States of America, the receipt whereof is hereby acknowledged, paid the undersigned corporation, and for other valuable consideration the

_____

organized and existing under the laws of the State of _____

and licensed to do business in the State of _____

certifies and agrees, that if contract for _____

for the County of Mercer is awarded to _____

the undersigned Corporation will execute the bond or bonds as required of the contract documents and will become Surety in the full amount set forth in the contract documents for the faithful performance of all obligations of the Contractor.

Signed and sealed this _____ day of _____.

_____

Attorney-In-Fact

NEW JERSEY STATUTORY
PERFORMANCE BOND

Bond No.

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned

as Principal, and

a corporation organized and existing under the laws of the State of and duly authorized to do business in the State of New Jersey, as Surety, are held and bound unto

as Obligee, in the penal sum of ($)
for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the above named Principal did on the day of

enter into a contract with

for

which contract is made part of this bond and the same as though set forth herein.

NOW, if the said shall well and faithfully do and perform the things agreed by them to be done and performed according to the terms of said contract, then this obligation shall be null and void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

The said Surety hereby stipulates and agrees that no modifications, omissions or additions in or to the terms of the said contract; or in or to the plans or specifications therefore, shall, in anyway affect the obligations of said Surety on its bonds.

This bond is given in compliance with the requirements of the Statutes of the State of New Jersey in respect to bonds of the contractors on public works. Revised Statutes of New Jersey, 1937, Sections 2A; 44-143-147, and amendments thereof, and liability hereunder is limited as in said statutes provided.

Signed, sealed and dated this day of

ATTEST:

_____

Principal

_____

Witness

_____

Surety

_____

Witness

STOCKHOLDER DISCLOSURE CERTIFICATION

FAILURE TO SUBMIT THE REQUIRED INFORMATION IS CAUSE FOR AUTOMATIC REJECTION

LEGAL NAME OF BIDDER: _____

☐ I certify that the list below contains the **Names And Home Addresses** of all stockholders holding 10% or more of the issued and outstanding stock of the undersigned.

OR

☐ I certify that no one stockholder owns 10% or more of the issued and outstanding stock of the undersigned.

Check the box that represents the type of business organization:

☐Partnership	☐Corporation	☐Sole Proprietorship
☐Limited Partnership	☐Limited Liability Company	☐Limited Liability Partnership
☐Subchapter S Corporation	☐Non-Profit Corporation	☐Other_____

COMPLETE IF THE BIDDER IS ONE OF THE FOUR TYPES OF CORPORATIONS:

DATE OF INCORPORATION: _____

STATE OF INCORPORATION: _____

BUSINESS ADDRESS: _____

NAMES AND HOME ADDRESSES OF STOCKHOLDERS HOLDING 10 % OR MORE OF THE ISSUED AND OUTSTANDING STOCK

Name: _____

Address: _____

_____

Name: _____

Address: _____

_____

Signature_____ Date_____

Printed Name & Title_____

THIS FORM MUST BE SIGNED.

Revised Contract Language for BRC Compliance

Goods and Services Contracts (including purchase orders)
** Construction Contracts (including public works related purchase orders)*

N.J.S.A. 52:32-44 imposes the following requirements on contractors and all subcontractors that **knowingly** provide goods or perform services for a contractor fulfilling this contract:

1) the contractor shall provide written notice to its subcontractors and suppliers to submit proof of business registration to the contractor;
2) subcontractors through all tiers of a project must provide written notice to their subcontractors and suppliers to submit proof of business registration and subcontractors shall collect such proofs of business registration and maintain them on file;
3) prior to receipt of final payment from a contracting agency, a contractor must submit to the contacting agency an accurate list of all subcontractors and suppliers* or attest that none was used; and,
4) during the term of this contract, the contractor and its affiliates shall collect and remit, and shall notify all subcontractors and their affiliates that they must collect and remit to the Director, New Jersey Division of Taxation, the use tax due pursuant to the Sales and Use Tax Act, (N.J.S.A. 54:32B-1 et seq.) on all sales of tangible personal property delivered into this State.

A contractor, subcontractor or supplier who fails to provide proof of business registration or provides false business registration information shall be liable to a penalty of $25 for each day of violation, not to exceed $50,000 for each business registration not properly provided or maintained under a contract with a contracting agency. Information on the law and its requirements is available by calling (609) 292-9292.

SAMPLE NEW JERSEY BUSINESS REGISTRATION CERTIFICATE

STATE OF NEW JERSEY
BUSINESS REGISTRATION CERTIFICATE
FOR STATE AGENCY AND CASINO SERVICE CONTRACTORS

DEPARTMENT OF TREASURY
DIVISION OF REVENUE
PO BOX 252
TRENTON, NJ 08646-0252

TAXPAYER NAME:
TAX REGISTRATION TEST ACCOUNT

TRADE NAME:
CLIENT REGISTRATION

TAXPAYER IDENTIFICATION#:
970-097-382/500

SEQUENCE NUMBER:
0107330

ADDRESS:
847 ROEBLING AVE
TRENTON NJ 08611

ISSUANCE DATE:
07/14/04

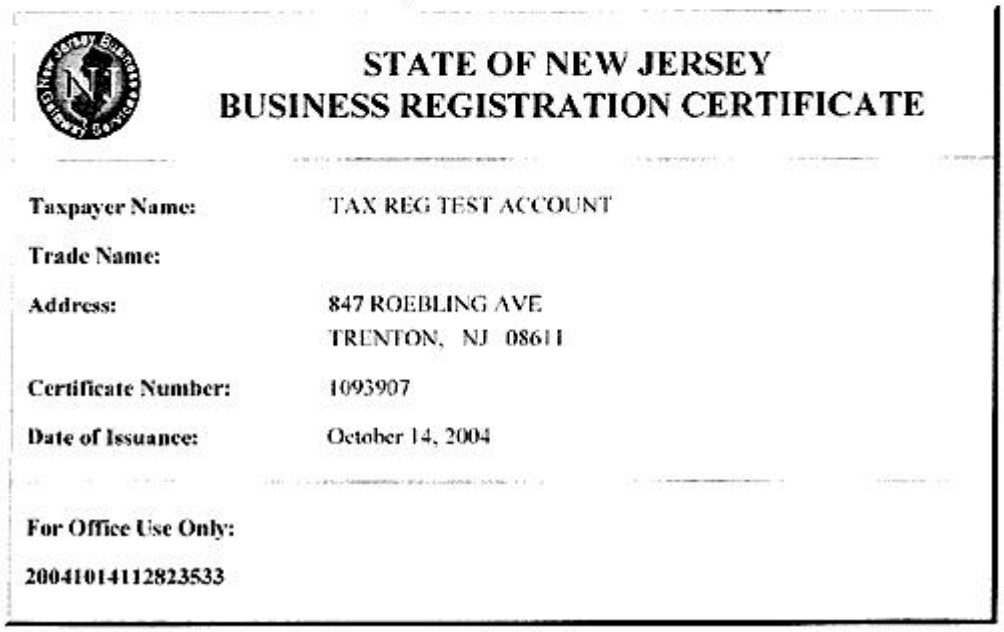
EFFECTIVE DATE:
01/01/01

Acting Director

FORM BRC(08-01)

This Certificate is NOT assignable or transferable. It must be conspicuously displayed at above address.

SAMPLE



STATE OF NEW JERSEY
BUSINESS REGISTRATION CERTIFICATE

Taxpayer Name: TAX REG TEST ACCOUNT

Trade Name:

Address: 847 ROEBLING AVE
TRENTON, NJ 08611

Certificate Number: 1093907

Date of Issuance: October 14, 2004

For Office Use Only:

20041014112823533

REFERENCES

PROVIDE THREE (3) AIRPORT REFERENCES WHERE THE
PROPOSED MODEL VEHICLE WAS SUPPLIED WITHIN THE LAST THREE (3) YEARS

AIRPORT NAME_____
AIRPORT CONTACT_____
ADDRESS_____
CITY, STATE, ZIP_____
TELEPHONE NUMBER_____
CONTRACT AMOUNT_____

AIRPORT NAME_____
AIRPORT CONTACT_____
ADDRESS_____
CITY, STATE, ZIP_____
TELEPHONE NUMBER_____
CONTRACT AMOUNT_____

AIRPORT NAME_____
AIRPORT CONTACT_____
ADDRESS_____
CITY, STATE, ZIP_____
TELEPHONE NUMBER_____
CONTRACT AMOUNT_____

BID PROPOSAL FORM AND SIGNATURE PAGE

The undersigned bidder declares that he/she has read the Notice to Bidders, Instructions, Affidavits and Scope of Work and that he/she has determined the conditions affecting the bid agrees, if this proposal is accepted, to furnish and deliver the following:

The County of Mercer requests bids for **ITEM P 655 ARFF VEHICLE CLASS 4 and ITEM P 656 ARFF VEHICLE CLASS 4. There is a base bid for one truck, alternate bid one for one additional truck, alternate bid two for an extended warranty for the base truck and alternate bid three for an extended warranty for the alternate truck. DELIVERY IS REQUIRED WITHIN 365 CALENDAR DAYS.**

(SIGNATURE BY AUTHORIZED REPRESENTATIVE)

The undersigned is a Corporation, Partnership or Individual under the laws of the State of

_____ having its principal office at_____

COMPANY _____

ADDRESS _____

ADDRESS _____

NAME _____

TELEPHONE _____

FAX _____

E-MAIL _____

DATE _____

CONTRACT AWARD

Upon opening bids, pricing shall remain firm for a period of sixty (60) calendar days. In the event that the award is not made within sixty (60) calendar days, bidders may hold their bid consideration beyond sixty days or until the contract is awarded.

☐ Check here if willing to hold the pricing consideration beyond sixty days or until the contract is awarded.

☐ Check here if not willing to hold the pricing consideration beyond sixty days or until the contract is awarded.

_____

AUTHORIZED SIGNATURE

CONTINUITY OF OPERATON DURING EMERGENCIES

In the event of an emergency, Vendor will provide priority service for Mercer County.

CONTINUITY OF OPERATION DURING EMERGENCY

YES ☐

NO ☐

Contractors shall have contingency plans to ensure that Services continue during emergency periods such as, but not limited to, major equipment breakdown, national or local strikes, severe weather conditions, power outages and traffic disruptions. Indicate your continuity of operation plan for ensuring services during emergencies.

_____
_____
_____
_____
_____
_____
_____
_____

IF AWARDED A CONTRACT, PLEASE PROVIDE CONTACT, ADDRESSES FOR PURCHASE ORDERS AND CHECK REMIT TO INFORMATION, COPY OF YOUR W9 AND UPON AWARD, FORWARD TO THE COUNTY OF MERCER, ACCOUNTS PAYABLE, 640 SOUTH BROAD STREET, TRENTON, NJ 609 278 8139

CONTRACT CONTACT

_____

COMPANY

_____

PURCHASE ORDER MAILED TO:

_____

_____

_____

CHECK REMIT TO:

_____

_____

_____

TELEPHONE

_____

FAX

_____

E-MAIL

_____

EXCEPTIONS (IF NONE, PLEASE NOTE)

TRENTON-MERCER AIRPORT 280.006
EWING, NJ
REPLACE ARFF VEHICLES (343 & 344) 06/12/13
BASE BID

ITEM NO	FAA SPEC	DESCRIPTION	QUANTITY	UNITS
1	P-655	ARFF VEHICLE NO. 1	1	LS

TRENTON-MERCER AIRPORT 280.006
EWING, NJ
REPLACE ARFF VEHICLES (343 & 344) 06/12/13
ALTERNATE BID NO. 1

ITEM NO	FAA SPEC	DESCRIPTION	QUANTITY	UNITS
1	P-655	ARFF VEHICLE NO. 1	1	LS
2	P-656	ARFF VEHICLE NO. 2	1	LS

TRENTON-MERCER AIRPORT 280.006
EWING, NJ
REPLACE ARFF VEHICLES (343 & 344) 06/12/13
ALTERNATE BID NO. 2

ITEM NO	FAA SPEC	DESCRIPTION	QUANTITY	UNITS
1	P-655	ARFF VEHICLE NO. 1 EXTENDED WARRANTY	1	LS

TRENTON-MERCER AIRPORT 280.006
EWING, NJ
REPLACE ARFF VEHICLES (343 & 344) 06/12/13
ALTERNATE BID NO. 3

ITEM NO	FAA SPEC	DESCRIPTION	QUANTITY	UNITS
1	P-656	ARFF VEHICLE NO. 2 EXTENDED WARRANTY	1	LS

PROPOSAL

FOR PROCUREMENT OF THE

REPLACE ARFF VEHICLES (343 & 344)

AT

TRENTON-MERCER AIRPORT

WEST TRENTON, NJ

TO: Mr. Brian M. Hughes, County Executive
County of Mercer
Mercer County Administrative Building
640 South Broad Street, PO Box 8068
Trenton, New Jersey 08650-0068

The undersigned, as bidder, hereby declares that he/she has examined the Contract Documents himself/herself fully in regard to all conditions of the Contract Documents; that he/she has examined and read the Contract Documents for the work and all addenda relative thereto furnished prior to the opening of bids; that he/she has satisfied himself/herself relative to the work to be performed.

The bidder understands that the Notice to Bidders, located in the front of these Contract Documents, description of the proposed work, as well as indicates the place, date, and time of the proposal opening; a listing of estimated quantities is located in the front of these Contract Documents; the time in which the work must be completed shall be 365 calendar days, whether the Base Bid or Alternate Bid No. 1 is awarded. If the bidder considers that the time to complete the work is inadequate, they should not submit a bid.

The bidder understands that the description under each item, being briefly stated, implies, although it does not mention, all incidentals and that the prices stated are intended to cover all such work, materials and incidentals as constitute bidder's obligations as described in the specifications and any details not specifically mentioned, but evidently included in the Contract shall be compensated for in the item which most logically includes it.

The bidder understands that the proposal guaranty shall be in the form of a bid bond or certified check in the amount of ten percent (10%) of the total bid price (but not to exceed $20,000) of this; the proposal guaranty shall become the property of the Owner in the event the Contract is not executed within the time above set forth, as liquidated damages for the delay and additional expense to the Owner caused thereby.

The bidder agrees that upon receipt of written notice of the acceptance of this proposal, bidder will execute the Contract attached within 15 days. The bidder further agrees to commence construction of the vehicle(s) with an adequate work force and equipment on the date stated in the written notice to proceed and will progress therewith to its completion within the time stated, and in accordance with this Contract and Specification.

TRENTON-MERCER AIRPORT
EWING, NJ
REPLACE ARFF EQUIPMENT (343 AND 344)
BASE BID

ITEM NO.	FAA SPEC NO.	QUANTITY	ITEM LIST ITEM DESCRIPTION (PRICE WRITTEN IN WORD)	UNIT PRICE IN FIGURES DOLLARS	 CENTS	TOTAL AMOUNT DOLLARS	 CENTS
1	P-655	1 LS	ARFF VEHICLE NO. 1 AT PER LUMP SUM				
TOTAL BASE BID PRICE (WRITTEN IN WORD)						DOLLARS	CENTS

TRENTON-MERCER AIRPORT
EWING, NJ
REPLACE ARFF EQUIPMENT (343 AND 344)
ALTERNATE BID NO. 1

ITEM NO.	FAA SPEC NO.	QUANTITY	ITEM LIST ITEM DESCRIPTION (PRICE WRITTEN IN WORD)	UNIT PRICE IN FIGURES DOLLARS	 CENTS	TOTAL AMOUNT DOLLARS	 CENTS
1	P-655	1 LS	ARFF VEHICLE NO. 1 AT PER LUMP SUM				
2	P-656	1 LS	ARFF VEHICLE NO. 2 AT PER LUMP SUM				
TOTAL ALTERNATE BID NO. 1 PRICE (WRITTEN IN WORD)						DOLLARS	CENTS

TRENTON-MERCER AIRPORT
EWING, NJ
REPLACE ARFF EQUIPMENT (343 AND 344)
ALTERNATE BID NO. 2

ITEM NO.	FAA SPEC NO.	QUANTITY	ITEM LIST ITEM DESCRIPTION (PRICE WRITTEN IN WORD)	UNIT PRICE IN FIGURES DOLLARS	 CENTS	TOTAL AMOUNT DOLLARS	 CENTS
1	P-655	1 LS	ARFF VEHICLE NO. 1 EXTENDED WARRANTY AT PER LUMP SUM				
TOTAL ALTERNATE BID NO. 2 PRICE (WRITTEN IN WORD)						DOLLARS	CENTS

TRENTON-MERCER AIRPORT
EWING, NJ
REPLACE ARFF EQUIPMENT (343 AND 344)
ALTERNATE BID NO. 3

ITEM NO.	FAA SPEC NO.	QUANTITY	ITEM LIST ITEM DESCRIPTION (PRICE WRITTEN IN WORD)	UNIT PRICE IN FIGURES DOLLARS	 CENTS	TOTAL AMOUNT DOLLARS	 CENTS
1	P-656	1 LS	ARFF VEHICLE NO. 2 EXTENDED WARRANTY AT PER LUMP SUM				
TOTAL ALTERNATE BID NO. 3 PRICE (WRITTEN IN WORD)						DOLLARS	CENTS

The bidder proposes and agrees, if this Proposal is accepted, to contract in the form of contract specified with the **County of Mercer** (Owner), to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the construction of the **Replace ARFF Vehicles (343 & 344)** project in full and complete accordance with the shown, noted, described and reasonably intended requirements of the Contract Documents, to the full and entire satisfaction of the above said Owner, with a definite understanding that no money will be allowed for extra work except as set forth in the attached Contract Documents, for the unit prices listed opposite each item.

BIDDER:

BY: _____
(Signature)

_____ **(SEAL)**
(Printed Name)

DATE: _____

COMPANY NAME: _____

ADDRESS: _____

_____

PHONE NO: _____

NOTE: If Contractor is a corporation, Secretary should attest.

ATTEST:

SECRETARY: _____
(Signature)

_____
(Printed Name)

(This form must be completed and submitted with the Proposal.)

ATTACHMENTS TO PROPOSAL

BIDDER and his/her surety, where appropriate, have completed and executed the attached documents which are identified below.

Contractor's Certification of Eligibility

Buy American Preferences & Certificate

Certifications:

- Certification Of Non-Segregated Facilities
- Certification Regarding Debarment, Suspension, Ineligibility And Voluntary Exclusion

CONTRACTOR'S CERTIFICATION OF ELIGIBILITY

The bidder/offeror certifies, by submission of this proposal or acceptance of this contract, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

The bidder/offeror further agrees by submitting this proposal that it will include this clause without modification in all lower tier transactions, solicitations, proposals, contracts, and subcontracts. Where the bidder/offer/contractor or any lower tier participant is unable to certify to this statement, it shall attach an explanation to this solicitation/proposal.

That, the information above is true and complete to the best of my knowledge.

_____

Printed Name and Title

_____ _____

Signature Date

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

The full names and residences of all persons interested in this proposal as principals are as follows:

_____

_____

_____

_____

_____

_____

_____

_____

(This form must be completed and submitted with the Proposal.)

BUY AMERICAN PREFERENCES

(a) The Aviation Safety and Capacity Expansion Act of 1990 provides that preference be given to steel and manufactured products produced in the United States when funds are expended pursuant to a grant issued under the Airport Improvement Program. The following terms apply:

1. Steel and manufactured products. As used in this clause, steel and manufactured products include (1) steel produced in the United States or (2) a manufactured product produced in the United States, if the cost of its components mined, produced or manufactured in the United States exceeds 60 percent of the cost of all its components and final assembly has taken place in the United States. Components of foreign origin of the same class or kind as the products referred to in subparagraphs b. (1) or (2) shall be treated as domestic.
2. Components. As used in this clause, components means those articles, materials, and supplies incorporated directly into steel and manufactured products.
3. Cost of Components. This means the costs for production of the components, exclusive of final assembly labor costs.

(b) The successful bidder will be required to assure that only domestic steel and manufactured products will be used by the Contractor, subcontractors, materialmen and suppliers in the performance of this contract, except those:

1. that the US Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality;
2. that the US Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, that domestic preference would be inconsistent with the public interest; or
3. that inclusion of domestic material will increase the cost of the overall project contract by more than 25 percent.

BUY AMERICAN CERTIFICATE

By submitting a bid/proposal under this solicitation, except for those items listed by the offeror below or on a separate and clearly identified attachment to this bid/proposal, the offeror certifies that steel and each manufactured product, are produced in the United States, as defined in the clause Buy American - Steel and Manufactured Products for Construction Contracts) and that components of unknown origin are considered to have been produced or manufactured outside the United States.

Offerors may obtain from the owner a listing of articles, materials and supplies excepted from this provision.

PRODUCT	COUNTRY OF ORIGIN
_____	_____
_____	_____
_____	_____

(This form must be completed and submitted with the Proposal.)

CERTIFICATIONS

BIDDER'S NAME: _____

ADDRESS: _____

TELEPHONE NO.: _____ **FAX NO.** _____

IRS EMPLOYER IDENTIFICATION NUMBER: _____

CERTIFICATION OF NON-SEGREGATED FACILITIES - 41 CFR PART 60-1.8

CERTIFICATION OF NONSEGREGATED FACILITIES:

The federally-assisted contractor certifies that she or he does not maintain or provide, for his employees, any segregated facilities at any of his establishments and that she or he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally-assisted contractor certifies that she or he will not maintain or provide, for his employees, segregated facilities at any of his establishments and that she or he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The federally-assisted contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract.

As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms, and washrooms, restaurants and other eating areas, timeclocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directives or are, in fact, segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason. The federally-assisted contractor agrees that (except where she or he has obtained identical certifications from proposed subcontractors for specific time periods) she or he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause and that she or he will retain such certifications in his files.

NOTICE TO PROSPECTIVE FEDERALLY ASSISTED CONTRACTORS:

1. A Certification of Non-segregated Facilities shall be submitted prior to the award of a federally-assisted contract exceeding $10,000 which is not exempt from the provisions of the Equal Opportunity Clause.

2. Contractors receiving federally-assisted contract awards exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of the following notice to prospective subcontractors for supplies and contracts where the subcontracts exceed $10,000 and are not exempt from the provisions of the Equal Opportunity Clause.

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENTS FOR CERTIFICATION OF NON-SEGREGATED FACILITIES:

1. A Certification of Non-segregated Facilities shall be submitted prior to the award of a subcontract exceeding $10,000, which is not exempt from the provisions of the Equal Opportunity Clause.

2. Contractors receiving subcontract awards exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of this notice to prospective subcontractors for supplies and contracts where the subcontracts exceed $10,000 and are not exempt from the provisions of the Equal Opportunity Clause.

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

The bidder certifies, by submission of this proposal or acceptance of this contract, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency. It further agrees by submitting this proposal that it will include this clause without modification in all lower tier transactions, solicitations, proposals, contracts, and subcontracts. Where the bidder or any lower tier participant is unable to certify to this statement, it shall attach an explanation to this solicitation/proposal.

Printed Name & Title: _____

Signature: _____

Date: _____

(This form must be completed and submitted with the Proposal.)

END OF PROPOSAL

AGREEMENT (SAMPLE)

THIS AGREEMENT is dated as of the _____ day of _____ in the year 20___ by and between the County of Mercer, a New Jersey municipal corporation, having an address at County of Mercer, McDade Administration Building, 640 South Broad Street, Trenton, NJ 08650 (hereinafter called Owner) and _____having an address at [address] (hereinafter called Contractor).

Owner and Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1 - WORK

Contractor shall perform, construct and complete all Work as specified and indicated in the **Replace ARFF Equipment (343 & 344)** Contract.

ARTICLE 2 - CONTRACT TIMES

2.1 **Contract Time.** The Work shall be substantially complete within **365 calendar days**.

2.2 **Damages for Delay in Completion.** If the Work is uncompleted after the Contract Time, liquidated damages in the amount of $5,000 per calendar day shall be assessed.

ARTICLE 3 - CONTRACT PRICE

3.1 The Owner will pay Contractor for completion of the Work in accordance with the Contract for the Total _____ in the amount of $_____, hereby identified as the Contract Price, as shown in the Contractor's Proposal, with discrepancies corrected.

ARTICLE 4 - PAYMENT PROCEDURES

4.1 **Final Payment:** Final payment will be made after final acceptance by the Owner.

4.2 **Withholding of Payments:** Payment, or partial payment, will be withheld by the Owner because of claims made or liens filed in connection with the Contract.

ARTICLE 5 - CONTRACTOR'S REPRESENTATIONS

In executing this Agreement, Contractor makes the following representations:

5.1 Contractor has examined and carefully studied the Contract including Addenda.

5.2 Contractor is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, performance and furnishing of the Work.

5.3 Contractor has given Engineer written notice of all conflicts, errors, ambiguities or discrepancies that Contractor has discovered in the Contract and the written resolution thereof by Engineer is acceptable to Contractor, and the Contract is generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 6 - CONTRACT

The Contract which comprises the entire Agreement between Owner and Contractor concerning the Work consists of the following:

6.1 The Proposal with discrepancies corrected.

6.2 This Agreement.

6.3 The Contractor's Performance Bond.

6.4 The Contractor's Certificates of Insurance.

6.5 The Notice of Award and Notice to Proceed.

6.6 The General Provisions and the Technical Specifications, which are a part of the Contract.

6.8 Addenda listed below:

Addendum No.	Date
___	_____
___	_____
___	_____

6.9 There are no documents other than those listed above in this Article 6. The Contract may only be modified by Change Order.

ARTICLE 7 - MISCELLANEOUS

7.1 No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

7.2 Owner and Contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, his partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract.

7.3 Any provision or part of the Contract held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner or Contractor, who agree that the Contract shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

IN WITNESS WHEREOF, Owner and Contractor have signed six (6) copies of this Agreement. This Agreement will be effective on the day and year first above written.

COUNTY OF MERCER

_____ **(SEAL)**

Brian M. Hughes
County Executive

ATTEST

_____ **(SEAL)**

Jerlene H. Worthy, Clerk
Board of Chosen Freeholders

WITNESS

_____ **(SEAL)**

_____
County Counsel

CONTRACTOR:

_____ **(SEAL)**
(Company Name)

_____
(Signature)

_____
(Printed Name)

_____
(Printed Title)

(ACKNOWLEDGMENT OF OFFICER OF OWNER)

STATE OF NEW JERSEY

COUNTY OF MERCER } **SS:**

On the _____ day of _____ in the year 2013, before me, the undersigned, a Notary Public in and for said State, personally appeared Brian M. Hughes, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____

Notary Public

(ACKNOWLEDGMENT OF CONTRACTOR, IF A CORPORATION)

STATE OF _____

COUNTY OF _____ } **SS:**

On the _____ day of _____ in the year 2013, before me, the undersigned, a Notary Public in and for said State, personally appeared _____

to me known, who, being by me duly sworn, did depose and say that he/she/they reside(s) at ___

_____,

that he/she/they is(are) the _____ of _____,

the corporation described in and which executed the above instrument; and that he/she/they know(s) the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the board of directors of said corporation, and that he/she/they signed his/her/their name(s) thereto by like authority.

_____

Notary Public

(ACKNOWLEDGMENT OF CONTRACTOR, IF OTHER THAN A CORPORATION)

STATE OF _____ } **SS:**

COUNTY OF _____

On the _____ day of _____ in the year 2013, before me, the undersigned, a Notary Public in and for said State, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is(are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____

Notary Public

(CERTIFICATE OF OWNER'S ATTORNEY)

I, the undersigned, _____, the duly authorized and acting legal representative of the Owner, do hereby certify as follows:

I have examined the foregoing Contract and surety bond and the manner of execution thereof, and I am of the opinion that each of the aforesaid Agreements has been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said Agreements on behalf of the respective parties named therein; and that the foregoing Agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with the terms, conditions, and provisions thereof.

_____

Owner's Attorney

_____

Date

END OF AGREEMENT

Item P 655 ARFF VEHICLE PROCUREMENT SPECIFICATION, CLASS 4 (Base Bid and Alternate Bid No. 1)

PROCUREMENT SPECIFICATION Class 4 AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF) VEHICLE

1. SCOPE. This Procurement Specification (PS) covers a commercially produced diesel engine driven ARFF vehicle for an Index B airport. It includes a 1500 gallon water/Aqueous Film Forming Foam (AFFF) fire suppression system:
450 lb potassium-based dry chemical and 460 lb halogenated agent complementary systems.

The ARFF vehicle is intended to carry rescue and fire fighting equipment for the purpose of rescuing aircraft passengers, preventing aircraft fire loss, and combating fires in aircraft.

2. CLASSIFICATION. The ARFF vehicle(s) covered by this PS are classified in accordance with Part 139, Certification and Operations: Land Airports Serving Certain Air Carriers, Section 315, Aircraft Rescue and Firefighting: Index Determination; Section 317, Aircraft Rescue and Firefighting: Equipment and Agents; and Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles, as follows:

Airport Index	Vehicle Class	Minimum Rated Capacities (gallons/liters)
Index B	4	1500 gallon (5678 liter) water/AFFF solution

3. VEHICLE CONFORMANCE/PERFORMANCE CHARACTERISTICS. The ARFF vehicle will be in accordance with the applicable requirements of National Fire Protection Association (NFPA) 414, Standard for Aircraft Rescue and Fire Fighting Vehicles (2007 Edition), and AC 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles.

3.1 General Administration Requirements.

3.1.1 Manuals: Technical manuals will consist of operator, service, and parts manuals. All manuals are required to be provided in hardcopy and in digital format on CDs when requested.

3.1.1.1 Technical manuals. The overall format for the manuals will be commercial. Each technical manual will have a title page. Line art will be used to the maximum extent possible for illustrations and parts lists. One complete set of engine and transmission parts, service and operator's manuals will be packed with each vehicle.

a. The contractor will provide digitized manuals in CD format when requested in addition to or in place of printed paper copies.

b. The contractor will provide two complete sets of hardcopy manuals and / or CDs when requested.

3.1.1.1.1 Operator's manual. The operator's manual will include all information required for the safe and efficient operation of the vehicle, including fire extinguishing systems, equipment, and any special attachments or auxiliary support equipment. As a minimum, the operator's manual will include the following:

a. The location and function of all controls and instruments will be illustrated and functionally described.

b. Safety information that is consistent with the safety standards established by the Occupational Safety and Health Administration (OSHA) and NFPA.

c. All operational and inspection checks and adjustments in preparation for placing the vehicle into service upon receipt from the manufacturer.

d. Tie down procedures for transport on a low-boy trailer.

e. Warranty information and the period of the warranty coverage for the complete vehicle and for any component warranty that exceeds the warranty of the complete vehicle. Addresses and telephone numbers will be provided for all warranty providers.

f. General description and necessary step-by-step instructions for the operation of the vehicle and its fire extinguishing system(s) and auxiliary equipment.

g. A description of the post-operational procedures (draining, flushing, re-servicing, etcetera).

h. Daily maintenance inspection checklists that the operator is expected to perform, including basic troubleshooting procedures.

i. Disabled vehicle towing procedures.

j. Procedures and equipment required for changing a tire.

k. Schedules (hours, miles, time periods) for required preventative maintenance and required periodic maintenance.

l. Line art drawing of the vehicle, including panoramic views (front, rear, left, and right sides) showing basic dimensions and weights (total vehicle and individual axle weight for the unloaded and fully loaded vehicle). For the purposes of this AC, "unloaded" is defined as a lack of agent, occupants and compartment load, and "loaded" is defined as including agent, occupants and compartment load.

3.1.1.1.2 Service manual. The service manual will identify all special tools and testequipment required to perform servicing, inspection, and testing. The manual will cover troubleshooting and maintenance as well as minor and major repair procedures. The text will contain performance specifications, tolerances, and fluid capacities; current, voltage, and resistance data; test procedures; and illustrations and exploded views as may be required to permit proper maintenance by qualified vehicle mechanics. The manual will contain an alphabetical subject index as well as a table of contents. The service manual will contain at least the following, where applicable:

a. Fire fighting system schematic(s).

b. Hydraulic schematic.

c. Pneumatic schematic.

d. Electrical schematic.

e. Winterization schematic.

f. Fuel schematic.

g. Schedules for required preventative maintenance and required periodic maintenance.

h. Lubrication locations, procedures, and intervals for parts of the vehicle and equipment that require lubrication.

3.1.1.1.3 Parts identification manual. The parts manual will include illustrations or exploded views (as needed) to identify properly all parts, assemblies, subassemblies, and special equipment. All components of assemblies shown in illustrations or exploded views will be identified by reference numbers that correspond to the reference numbers in the parts lists. All purchased parts will be cross-referenced with the original equipment manufacturer's (OEM) name and part number. The parts identification manual will provide the description and quantity of each item used for each vehicle. The size, thread dimensions, torque specifications, and special characteristics will be provided for all nonstandard nuts, bolts, screws, washers, grease fittings, and similar items. The manual will contain a numerical index. The parts manual will contain a list of all of the component vendor names, addresses, and telephone numbers referenced in the parts list.

3.1.2 Painting, plating, and corrosion control.

3.1.2.1 Finish. Exterior surfaces will be prepared, primed, and painted in accordance with all of the paint manufacturer's instructions and recommendations. Vehicles will be painted and marked in accordance with AC 150/5210-5, Painting, Marking, and Lighting of Vehicles Used on an Airport. The interior finish of all compartments will be based on the manufacturer’s standard production practice. This may include painting, texturing, coating or machine swirling as determined by the manufacturer. All bright metal and anodized parts, such as mirrors, horns, light bezels, tread plates, and roll-up compartment doors, will not be painted. All other surfaces capable of being painted must be in the appropriate yellow-green color.

3.1.2.2 Dissimilar metals. Dissimilar metals, as defined in MIL-STD-889, Dissimilar Metals, will not be in contact with each other. Metal plating or metal spraying of dissimilar base metals to provide electromotively compatible abutting surfaces is acceptable. The use of dissimilar metals separated by suitable insulating material is permitted, except in systems where bridging of insulation materials by an electrically conductive fluid can occur.

3.1.2.3 Protection against deterioration. Materials that deteriorate when exposed to sunlight, weather, or operational conditions normally encountered during service will not be used or will have a means of protection against such deterioration that does not prevent compliance with performance requirements. Protective coatings that chip, crack, or scale with age or extremes of climatic conditions or when exposed to heat will not be used.

3.1.2.4 Reflective stripes. A minimum eight (8) inch horizontal band of high gloss white paint or white reflective tape (Retroreflective, ASTM-D 4956-09, *Standard Specification for Retroreflective Sheeting for Traffic Control*, TYPE III & above) must be applied around the vehicle’s surface.

3.1.2.5 Lettering. The manufacturer will apply the airport's 'Name' and 'Insignia' (if available) in a contrasting color or by decal on both sides of the vehicle in long radius elliptical arches above and below the lettering center line. The size of the lettering will be a minimum of 2½-inches to a maximum of 6-inches. Reflective lettering is allowed if the material is the same as that which is used for the reflective stripe (as specified in AC 150/5210-5).

3.1.3 Vehicle identification plate. A permanently marked identification plate will be securely mounted at the driver's compartment. The identification plate will contain the following information:

a. NOMENCLATURE

b. MANUFACTURER'S MAKE AND MODEL

c. MANUFACTURER'S SERIAL NUMBER

d. VEHICLE CURB WEIGHT: kg (pounds)

e. PAYLOAD, MAXIMUM: kg (pounds)

f. GROSS VEHICLE WEIGHT (GVW): kg (pounds)

g. FUEL CAPACITY AND TYPE: gals (gallons)

h. DATE OF DELIVERY (month and year)

i. WARRANTY (months and km (miles))

j. CONTRACT NUMBER

k. PAINT COLOR AND NUMBER

A second permanently marked information data plate will be securely mounted on the interior of the driver's compartment. The plate will contain the information required by NFPA 414, Standard for Aircraft Rescue and Fire Fighting Vehicles (2007 Edition), Section 1.3.5 Vehicle Information Data Plate. A single plate that combines or contains the information required for both plates is acceptable.

3.1.4 Environmental conditions.

3.1.4.1 Vehicle operation and storage temperature conditions will vary with geographical location. Thus, the locality temperature range can go from -40° to 110°F. Refer to NFPA 414 for vehicle winterization criteria.

3.1.4.2 Extreme temperature range. The vehicle will be capable of satisfactory storage and operation in temperatures ranging from -40° to 110°F. The vehicle will be equipped with a cab, chassis, and agent winterization system, permitting operation at -40°F. The winterization system will not detract from the performance of the vehicle or the firefighting system in ambient temperatures up to 110°F. The vehicle chassis winterization system will maintain the engine coolant, lubricants, fuel, and electrical systems operational at ambient temperatures of -40°F. The vehicle agent winterization system will provide sufficient insulation and heating capacity, by means of hot circulating liquids and/or forced air heat exchangers, to permit satisfactory operation of the vehicle and firefighting systems for a 2-hour period at ambient temperatures as low as -40°F with the vehicle fully operational and the engine running. At the end of this 2-hour

period, the vehicle will be capable of successfully discharging its agents. All compartments not winterized will be marked as such on the interior of the compartment. The marking will state that the compartment is not winterized and cannot be used for the storage of items capable of freezing.

3.1.5 Reduction of potential foreign object damage. All loose metal parts, such as pins, will be securely attached to the vehicle with wire ropes or chains. Removable exterior access panels, if provided, will be attached with captive fasteners.

3.1.6 Vehicle Mobility.

3.1.6.1 Operating terrain. The vehicle will be capable of operating safely on paved roads, graded gravel roads, cross country terrain, and sandy soil environments. Cross country terrain consists of open fields, broken ground, and uneven terrain. An off-road, high-mobility suspension system resulting in no more than 0.5 G_{rms} acceleration at the driver's seat of the vehicle when traversing an 8-inch (20 cm) diameter half round at 35 mph (56 kph) must be provided. The suspension design by which the manufacturer meets the suspension performance requirements is at the manufacturer's discretion.

3.1.6.2 Gradeability. The fully loaded vehicle will be able to ascend any paved slope up to and including 50-percent.

3.1.6.3 Side slope stability. The fully loaded vehicle will be stable on a 30° side slope when tested in accordance with NFPA 414.

3.1.6.4 Cornering stability. The fully loaded vehicle will be stable in accordance with NFPA 414 when tested in accordance with NFPA 414.

3.2 Weights and dimensions.

3.2.1 Overall dimensions. The maximum dimensions listed below are desirable to ensure vehicles can be accommodated in existing fire stations. Likewise, the overall dimensions should be held to a minimum that is consistent with the best operational performance of the vehicle and the design concepts needed to achieve this performance and to provide maximum maneuverability in accordance with NFPA 414.

Vehicle Capacity /Dimensions	**1500 Gallon**
Length (inches/cm)	433/1100
Width (inches/cm, excluding mirrors)	124/315
Height (inches/cm)	154/391

VEHICLE MEASUREMENT VALIDATION

The Firehouse was field measured to validate that the maximum dimensions listed above will work with the existing ARFF Station.

ADO/FAA Approval: ⇨_____

3.2.2 Angles of approach and departure. The fully loaded vehicle will have angles of approach and departure of not less than 30°.

3.2.3 Field of vision. The vehicle will have a field of vision in accordance with NFPA 414.

3.2.3.1 Mirrors. Combination flat and convex outside rearview mirrors will be installed on each side of the cab. The flat mirrors will be of the motorized remote control type, providing not less than 60° horizontal rotational viewing range. The flat mirrors will also have electrically heated heads. Mirror remote and heating controls will be located on the instrument panel within reach of the seated driver. To provide the driver a clear view of the area ahead of the vehicle and to eliminate potential blind spots, a rectangular mirror will be installed on the lower corner of each side of the windshield, having a minimum area of 35 square inches. The vehicle will have a back-up (rear-view) camera with a display monitor mounted above the driver in the cab. Cameras and monitors that are designed to replace the function of the side-view mirrors are not an approved option in this specification.

3.3 Chassis and vehicle components.

3.3.1 Engine. The vehicle will have a turbocharged diesel engine that is certified to comply with the Environmental Protection Agency (EPA) and state laws for off-highway emission requirements at the time of manufacture. The engine and transmission must operate efficiently and without detrimental effect to any drive train components when lubricated with standard, commercially available lubricants according to the recommendations of the engine and transmission manufacturers.

3.3.1.1 Acceleration. The fully loaded vehicle will accelerate from 0 to 50 miles per hour (mph) on a level paved road within: 25 seconds.

3.3.1.2 Maximum speed. The fully loaded vehicle will attain a minimum top speed of 70 mph on a level, paved road.

3.3.1.3 Pump and roll on a 40-percent grade. The fully loaded vehicle will be capable of pump and roll operations on a paved, dry, 40-percent grade in accordance with NFPA 414.

3.3.2 Engine cooling system. The engine cooling system will be in accordance with NFPA 414. A label will be installed near the engine coolant reservoir reading “Engine Coolant Fill.”

3.3.3 Fuel system. The fuel system will be in accordance with NFPA 414.

3.3.3.1 Fuel priming pump. The vehicle will be equipped with an electric or pneumatic fuel pump in addition to the mechanical fuel pump. The electric/pneumatic pump will be used as a priming pump capable of re-priming the engines fuel system.

3.3.3.2 Fuel tank. The vehicle will have one or two fuel tanks with a minimum usable capacity in accordance with NFPA 414, as amended by NFPA 414. Each tank will have a fill opening of 3 inches minimum, readily accessible to personnel standing on the ground and designed to prevent fuel splash while refueling. Each tank will be located and mounted so as to provide maximum protection from damage, exhaust heat, and ground fires. If more than one tank is furnished, means will be provided to assure equalized fuel level in both tanks. An overturn fuel valve will be provided for each tank to prevent spillage in the event of a rollover. Each fuel tank must be prominently labeled "Diesel Fuel Only".

3.3.4 Exhaust system. The exhaust system will be in accordance with NFPA 414. The exhaust system will be constructed of high grade rust resistant materials and protected from damage resulting from travel over rough terrain. The muffler(s) will be constructed of aluminized steel or stainless steel. Exhaust system outlet(s) will be directed upward, away from personnel accessing equipment compartments and the engine air intake, and will not be directed toward the ground.

3.3.5 Transmission. A fully automatic transmission will be provided. The transmission will be in accordance with NFPA 414.

3.3.6 Driveline. The vehicle driveline will be in accordance with NFPA 414. If the driveline is equipped with a differential locking control, a warning/caution label will be placed in view of the driver indicating the proper differential locking/un-locking procedures. The operator's manual will also include a similar warning/caution. All moving parts requiring routine lubrication must have a means of providing for such lubrication. There must be no pressure lubrication fittings where their normal use would damage grease seals or other parts.

3.3.7 Axle capacity. Each axle will have a rated capacity, as established by the axle manufacturer, in accordance with NFPA 414.

3.3.8 Suspension. The suspension system will be in accordance with NFPA 414 and AC 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles.

3.3.9 Tires and wheels. Tires and wheels will be in accordance with NFPA 414. The vehicle will be equipped with single tires and wheels at all wheel positions. The vehicle will be equipped with tubeless steel belted radial tires with non-directional on/off-road type tread mounted on disc wheel assemblies. Tire and wheel assemblies will be identical at all positions. Tires and wheels will be certified by the manufacturer for not less than 25 miles of continuous operation at 60 mph at the normal operational inflation pressure. A spare tire and wheel assembly will be provided; however, the spare tire and wheel assembly are not required to be mounted on the vehicle. Tires will be new. Retreads, recaps, or re-grooved tires will not be permitted.

Tire bead locks shall be installed on all tires and rims.

JUSTIFICATION

The tire bead locks would prevent a tire from coming off, if a tire was to go flat during an off road incident.

ADO/FAA Approval: ⇨_____

3.3.10 Towing connections. The vehicle will be equipped with towing connections in accordance with NFPA 414. The vehicle will be designed for flat towing; the capability to lift and tow the vehicle is not required. The tow connections may intrude into the 30 degree approach angle.

3.3.11 Brake system. The vehicle will be equipped with a multi-channel all-wheel antilock brake system with at least one channel for each axle. The brakes will be automatic, self-adjusting and fully air-actuated. Brakes will be in accordance with CFR 49 CFR 393.40 through 393.42(b)), 393.43, and 393.43 through 393.52. The braking system, complete with all necessary components will include:

a. Air compressor having a capacity of not less than 16 standard cubic feet per minute (SCFM).

b. Air storage reservoir(s), each tank equipped with drain (bleed) valves, and with safety and check valves between the compressor and the reservoir tank.

c. Automatic moisture ejector on each air storage reservoir. Manual air tank drains are acceptable if they are labeled, are centrally located in one compartment and are accessible by an individual standing at the side of the vehicle.

d. Automatic slack adjusters on cam brakes or internal self-adjusting brakes on wedge brakes on all axles.

e. Spring set parking brakes.

All components of the braking system will be installed in such a manner as to provide adequate road clearance when traveling over uneven or rough terrain, including objects liable to strike and cause damage to the brake system components. No part of the braking system will extend below the bottom of wheel rims, to ensure, in case of a flat tire, that the weight of the vehicle will be supported by the rim and the flat tire and not be imposed on any component of the braking system. Slack adjusters and air chambers will be located above the bottom edge of the axle carrier.

3.3.11.1 Air dryer. A replaceable cartridge desiccant air dryer will be installed in the air brake system. The dryer will have the capability of removing not less than 95 percent of the moisture in the air being dried. The dryer will have a filter to screen out oil and solid contaminants. The dryer will have an automatic self-cleaning cycle and a thermostatically controlled heater to prevent icing of the purge valve.

3.3.11.2 Compressed air shoreline or vehicle-mounted auxiliary air compressor. A flush mounted, check valved, auto-eject compressed air shoreline connection will be provided to maintain brake system pressure while the vehicle is not running. The shoreline will be flush mounted (not to extend outside the body line), located on the exterior of the vehicle, either on the left side rear corner of the cab, or at the rear of the vehicle. In lieu of a compressed air shoreline connection, the vehicle may be equipped with a 110 volt shoreline connected vehicle-mounted auxiliary air compressor. In addition to a compressed air shoreline connection, the vehicle may be equipped with an electrical shoreline connected vehicle mounted auxiliary air compressor.

3.3.12 Steering. The vehicle will be equipped with power steering. Rear-wheel steering technology is not an approved vehicle option.

3.3.12.1 Steering effort. The steering system performance will be in accordance with NFPA 414.

3.3.12.2 Turning diameter. The fully loaded vehicle will have a wall to wall turning diameter of less than three times the overall length of the vehicle in both directions in accordance with NFPA 414.

3.3.13 License plate bracket. A lighted license plate bracket will be provided at the left rear and left front of the vehicle. The location of the left front bracket will be placed so as not to interfere with the operation of fire fighting systems.

3.4 Cab. The vehicle will have a fully enclosed two door cab of materials which are corrosion resistant, such as aluminum, stainless steel, or glass reinforced polyester construction. Steps and handrails will be provided for all crew doors, and at least one grab handle will be provided for each crew member, located inside the cab for use while the vehicle is in motion. The lowermost step(s) will be no more than 22 inches above level ground when the vehicle is fully loaded. A tilt and telescoping steering column will be provided.

3.4.1 Windshield and windows. The windshield and windows will be of tinted safety glass. Each door window will be capable of being opened far enough to facilitate emergency occupant escape in the event of a vehicle accident. The vehicle windows will have an electric control system.

3.4.2 Cab interior sound level. The maximum cab interior sound level will be in accordance with NFPA 414.

3.4.3 Instruments and controls. All instruments and controls will be illuminated and designed to prevent or reduce windshield glare. Gauges will be provided for oil pressure, coolant temperature, and automatic transmission temperature. In addition to the instruments and controls required by NFPA 414, the following will be provided within convenient reach of the seated driver:

a. Master warning light control switch,
b. Work light switch(es), and
c. Compartment "Door Open" warning light and intermittent alarm that sounds when a compartment door is open and the parking brakes are released or the transmission is in any position other than neutral.

3.4.4 Windshield deluge system. The vehicle will be equipped with a powered windshield deluge system. The deluge system will be supplied from the agent water tank and will have an independent pumping system. The deluge system activation switch will be located within reach of the seated driver and turret operator.

3.4.5 Climate control system. The offeror/contractor's standard heater/defroster and air conditioning system will be provided. The climate control system will induct at least 60 cubic feet per minute of fresh air into the cab. Cab mounted components will be protected from inadvertent damage by personnel.

3.4.6 Seats. The driver seat will be adjustable fore and aft and for height. The turret operator’s seat, located to the right front of the driver’s seat, will be a fixed (non-suspension) type. Each seat will be provided with a Type 3 seat belt assembly (i.e., 3-point retractable restraint) in accordance with CFR

49 CFR 571.209. Seat belts must be of sufficient length to accommodate crew members in full Personal Protective Equipment (PPE).

3.4.6.1. Seat Options. Two types of seat options are allowed in the vehicle. A standard seat contains a hard/fixed back. For these seats, a remote-mounted bracket designed to store a Self–Contained Breathing Apparatus (SCBA) will be provided. The remote-mounted bracket for the driver and turret operator (at a minimum) must be placed inside the cab. The brackets for seat positions #3 and #4 may be placed outside of the cab if necessary. An SCBA seat, on the other hand, contains an opening which can accommodate someone wearing an SCBA. The chart below represents the user's stated preference for the vehicle seating configuration.

Position	Standard	SCBA-Seat	N/A
Driver		**X**	
Turret		**X**	
# 3		**X**	
# 4			**X**

JUSTIFICATION

During emergencies, back-up personnel will be coming from another fire station and we will need the three SCBA seats to accommodate the additional two people with SCBA packs that will be part of the ARFF vehicle response.

ADO/FAA Approval: ⇨_____

3.4.7 Windshield wipers and washer. The vehicle will be equipped with electrically powered windshield wipers. The wiper arms and blades will be of sufficient length to clear the windshield area described by SAE J198, Windshield Wiper Systems - Trucks. Individual wiper controls will include a minimum of two speed settings and an intermittent setting. The wiper blades will automatically return to a park position, out of the line of vision. The vehicle will be equipped with a powered windshield washer system, including an electric fluid pump, a minimum one gallon fluid container, washer nozzles mounted to the wiper arms (wet arms), and a momentary switch.

3.4.8 Warning signs. Signs that state "Occupants must be seated and wearing a seat belt when apparatus is in motion" will be provided in locations that are visible from each seated position in accordance with NFPA 414."

3.4.9 Lateral accelerometer and/or stability control system. The vehicle will be equipped with a lateral accelerometer and/or an electronic stability control system in accordance with NFPA 414.

3.4.10 Monitoring and Data Acquisition System (MADAS). The vehicle will be equipped with a MADAS as prescribed by NFPA 414.

3.5 Body, compartments, and equipment mounting.

3.5.1 Body. The vehicle will have a corrosion-resistant body.

3.5.2 Compartments. The vehicle body will have lighted compartments in accordance with NFPA 414 with a minimum of 10 cubic feet of enclosed storage space.

3.5.2.1 Compartment doors. Storage compartments will have clear anodized aluminum, counterbalanced, non-locking, roll-up or single hinged doors as determined by the manufacturer. Door latch handles on roll-up doors will be full-width bar type. Door straps will be provided to assist in closing the compartment doors when the rolled up or hinged door height exceeds six feet above the ground.

3.5.2.2 Scuffplates. Replaceable scuffplates will be provided at each compartment threshold to prevent body damage from sliding equipment in and out of the compartments. The scuffplates will be securely attached to the compartment threshold but will be easily replaceable in the event of damage.

3.5.2.3 Drip rails. Drip rails will be provided over each compartment door.

3.5.2.4 Shelves. An adjustable and removable compartment shelf will be provided for every 18 inches of each vertical storage compartment door opening. Shelving adjustments will require no more than common hand tools, and will not require disassembly of fasteners. Shelves will support a minimum of 200 pounds without permanent deformation. Each shelf will be accessible to crew members standing on the ground or using a pull out and tip-down configuration. Each shelf will have drain holes located so as to allow for drainage of any water from the stowed equipment.

3.5.2.5 Drainage mats. Each compartment floor and shelf will be covered with a removable black mat designed to allow for drainage of any water from the stowed equipment.

3.5.3 SCBA storage tubes. A single compartment or tubes for storage of four SCBA bottles will be provided. If tubes are provided, two will be installed on each side of the vehicle. The tubes will be of sufficient size to accommodate the procuring agencies SCBA cylinders.

3.5.4 Ladder, handrails, and walkways. Ladder, stepping, standing, and walking surfaces will be in accordance with NFPA 414. Handrails will be provided in accordance with NFPA 414. The lowermost step(s) or ladder rungs will be no more than 22 inches (56 cm) above level ground when the vehicle is fully loaded. The lowermost steps may extend below the angle of approach or departure or ground clearance limits if they are designed to swing clear. The tread of the bottom steps must be at least 8 inches (20 cm) in width and succeeding steps at least 16 inches (40 cm) in width. The full width of all steps must have at least 6 inches (15 cm) of unobstructed toe room or depth when measured from, and perpendicular to, the front edge of the weight-bearing surface of the step.

3.5.5 Ancillary equipment. Ancillary equipment listed in NFPA 414 A.4.2.1 (1)-(17) is not covered by this Procurement Specification in accordance with AC 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles. Ancillary equipment is funded separately by other sources.

NOTE: Equipment funding will be obtained as a separate contract under the provisions of AC 150/5210-14, Aircraft Rescue and Fire Fighting Equipment, Tools, and Clothing.

3.6 Agent system.

3.6.1 Agent (fire) pump. The vehicle will be equipped with a centrifugal pump capable of providing the performance specified herein as prescribed by NFPA 414.

3.6.1.1 Agent system piping. All piping, couplings, and valves and associated components that come into contact with the agent will be in accordance with NFPA 414.

3.6.1.2 Tank to pump connection. A check valve and shutoff valve will be provided in each tank to pump line.

3.6.1.3 Piping, couplings, and valves. All agent system piping will conform to NFPA 414 criteria.

3.6.1.4 Overheat protection. The agent system will be equipped with an overheat protection system in accordance with NFPA 414. Overheat protection is not required on vehicles utilizing a pre-mixed pressurized foam system.

3.6.1.5 Pressure relief valves. The agent system will be equipped with pressure relief valves in accordance with NFPA 414.

3.6.1.6 Drains. The agent system will be equipped with a drainage system in accordance with NFPA 414.

3.6.2 Water tank. The vehicle will have a water tank with a manufacturer certified minimum capacity of at least 1500 gallons.

3.6.2.1 Water tank construction. The water tank will be constructed of passivated stainless steel, polypropylene, or Glass Reinforced Polyester (GRP) construction. All materials used will be capable of storing water, foam concentrate, and water/AFFF solutions.

3.6.2.2 Water tank overhead fill cover and drain. The water tank will be equipped with a 20 inch fill tower. The tower will be designed to allow for video inspection of the water tank interior. The water tank will incorporate a drainage system in accordance with NFPA 414.

3.6.2.3 Water tank overflow system and venting. The water tank will incorporate a venting system to relieve pressure on the tank during fill and discharge operations at maximum flow rates. It will have an overflow system to relieve excess fluid in the event of tank overfill. Drainage from the vent and overflow system will not flow over body panels or other vehicle components and will not be in the track of any of the tires. Tank vent hoses will be of the non-collapsible type.

3.6.2.4 Water tank top fill opening. A top fill opening of not less than 8 inches internal diameter with a readily removable ¼-inch mesh strainer will be provided. The fill opening may be incorporated as part of the manhole cover, and will be sized to accommodate a 2½-inch fill hose.

3.6.2.5 Water tank fill connections. The water tank will incorporate National Hose thread connections and will be in accordance with NFPA 414. If the vehicle is fitted with the "structural fire fighting capability option," the additional requirements listed in paragraph 3.6.8 must be incorporated.

3.6.3 Foam system.

3.6.3.1 Foam concentrate tank. The foam concentrate tank(s) will have a manufacturer certified working capacity sufficient for two tanks of water at the maximum tolerance specified in NFPA 412,

Standard for Evaluating Aircraft Rescue and Fire-Fighting Foam Equipment for 3 to 6 percent foam concentrate (i.e., 7.0-percent).

3.6.3.1.1 Foam tank construction. The foam tank will be constructed of passivated stainless steel, polypropylene, or GRP construction. All materials used will be capable of storing foam concentrate.

3.6.3.1.2 Foam tank drain. The foam tank will incorporate a drain and drain valve. The valve will be on the left side of the vehicle and controlled by a crew member standing on the ground. The drain line will have a minimum 1½-inch I.D. The foam tank drain outlet will be located so that the contents of the tank can be drained into 5-gallon cans and 55-gallon drums.

3.6.3.1.3 Foam tank top fill trough. The foam tank will incorporate a top fill trough mounted in the top of the tank readily accessible to at least two crew members on top of the vehicle. The top fill trough will incorporate a cover, latch, and sealed so as to prevent spillage under any operating condition. The top fill trough will be designed to allow two standard 5gallon foam concentrate containers to be emptied simultaneously. The top fill trough neck will extend sufficiently close to the bottom of the tank to reduce foaming to a minimum during the fill operation. The top fill trough will incorporate readily removable, rigidly constructed 10 mesh stainless steel, brass or polyethylene strainers. All components in and around the top fill trough will be constructed of materials that resist all forms of deterioration that could be caused by the foam concentrate or water.

3.6.3.2 Foam tank fill connections. The foam tank will incorporate a 1.5-inch National Hose thread female hose connection on both sides of the vehicle to permit filling by an external transfer hose at flow rates up to 25-gpm. The connections will be provided with chained-on long handled plugs or rocker lug plugs. The top of the connections will be no higher than 48 inches above the ground and readily accessible. The fill lines will incorporate check valves and readily removable, rigidly constructed ¼-inch mesh strainers. All components in the foam tank fill system will be constructed of materials that resist all forms of deterioration that could be caused by the foam concentrate or water.

3.6.3.2.1 Foam tank vent and overflow system. The foam tank will incorporate a vent system to relieve pressure on the tank during fill and discharge operations at maximum flow rates and an overflow system to relieve excess liquid in the event of tank overfill. Drainage from the vent and overflow system will not flow over body panels or other vehicle components and will not be in front of or behind any of the tires. Tank vent hoses will be of the non-collapsible type.

3.6.3.3 Foam transfer pump. A foam transfer pump will be provided and mounted in a compartment on the vehicle. The pump will be capable of transferring and drawing foam liquid concentrate at adjustable flow rates up to 25-gpm directly through the pump and loading connections (see 3.6.3.2). All materials and components that come in contact with the foam will be compatible with the foam concentrate. The pump and its plumbing will have provisions for flushing with water from the water tank. A suitable length of hose with appropriate connections will be provided for filling the foam tank from an external foam storage container.

3.6.3.4 Foam flushing system. The foam concentrate system will be designed in accordance with NFPA 414 so that the system can be readily flushed with clear water.

3.6.3.5 Foam concentrate piping. All metallic surfaces of the piping and associated components that come into contact with the foam concentrate will be of brass, bronze, or passivated stainless steel. The foam concentrate piping will be in accordance with NFPA 414.

3.6.4 Foam proportioning system. The vehicle will have a foam proportioning system for Aqueous Film-Forming Foam (AFFF) (whether 3- or 6-percent foam concentrate) in accordance with NFPA 414. If a fixed orifice plate system is used, a plate will be provided for each percentage foam concentrate; the additional plate will be securely mounted in a protected location on the vehicle. A fire vehicle mechanic will be able to interchange the plates using common hand tools.

3.6.5 Primary vehicle turret. The vehicle will be equipped with a standard roof-mounted turret, high reach extendable turret, and/or high flow bumper mounted turret to serve as the primary source of agent delivery, as specified below:

3.6.5.1 Roof turret. The roof turret will be mounted near the front of the roof of the vehicle. It will have a non-air-aspirating, constant flow, variable stream nozzle with dual flow rates for foam or water rated as specified in NFPA 414. The discharge pattern will be infinitely variable from straight stream to fully dispersed. The roof turret will be power operated; power controls will be positioned for use by the driver and the crew member seated to the right of the driver. The type of nozzle or turret drain will be per the manufacturer's recommendation.

3.6.6 Bumper turret. The vehicle will be equipped with a joystick controlled, constant flow, non-air-aspirating, variable stream type: low angle high volume dual rate (minimum 375/750 GPM) bumper turret. The bumper turret will be capable of discharging at a minimum flow rates of foam or water as specified by the user, with a pattern infinitely variable from straight stream to fully dispersed. The bumper turret will be capable of automatic oscillation, with the range of oscillation adjustable up to 90° each side of center (left and right) with vertical travel capabilities of +45°/-20° meeting section 4.20.2 in NFPA 414.

3.6.7 Preconnected handline(s). One 200 foot, 1¾-inch pre-connected woven jacket handline(s), with a 1½-inch control valve and a pistol grip nozzle, will be located on (or accessible from) left side of the vehicle. A safety system will be provided to prevent charging of the hose until the hose has been fully deployed. The handline(s) and nozzle(s) will be in accordance with NFPA 414, and will allow for a minimum of 95 gpm at 100 psi nozzle pressure. A control for charging the handline will be provided for operation by both the driver and the turret operator.

3.6.7.1 In addition, the vehicle will be equipped with the following handline: 100 feet of twinned 1-inch dry chemical / foam-water hose on a reel.

3.6.8. Structural fire fighting capability. The vehicle will be equipped with an agent system structural control panel, on the left side of the vehicle, operable while standing on the ground. Structural panel activation will be interlocked to operate only with the vehicle parking brakes set and the transmission in neutral position. Controls and instruments will be grouped by function. The control panel will be hinged or accessible from the rear for maintenance. Instruments will be lighted for night operation.

3.6.8.1 The structural panel will include, as a minimum, the following:

a. Panel activation switch, including the panel lights.

b. Engine tachometer.

c. Engine oil pressure gauge with low pressure warning light.

d. Engine coolant temperature gauge with high temperature warning light.

e. A liquid filled gauge, or digital indicator for pump suction, -30 inches Hg vacuum to 600 psi.

f. A liquid filled gauge, or digital indicator for pump pressure, 0 to 600 psi.

g. An adjustable pump pressure using either an electronic pressure governor or manual control with a relief valve will be provided.

h. Foam or water selection.

i. Water and foam tank liquid level indicators, located adjacent to the water and foam tank fills.

3.6.8.2 The structural fire fighting capability will also require installation of the following items:

a. A priming pump and control (for drafting using the large intake connection).

b. Water tank isolation valve.

c. Discharge connections. Two 2½-inch discharge connections with male National Hose threads will be provided. One 2½-inch discharge will be provided on each side of the vehicle. Each connection will be equipped with a cap, a quarter-turn control valve, a bleeder valve, and a pressure gauge. Each connection will be rated at 250-gpm minimum.

d. Intake connections. The vehicle will be equipped with one valved 4½-inch intake connection on the left side. The vehicle will be equipped with one valved 2½-inch intake connection on the left side adjacent to the 4½-inch intake connection with both having either a 30° or 45° turn-down fitting. The 4½-inch intake connection will have male National Hose threads, a quarter-turn control valve, a bleeder valve, a strainer, and a cap. The 2½-inch intake connection will have rocker lug female National Hose threads, a quarter-turn control valve, a bleeder valve, a strainer, and a plug. The vehicle will be capable of filling its water tank by pumping from a draft, a hydrant, or a nurse truck through either of the intake connections without the use of a hose from a discharge connection to a tank fill connection.

3.6.9 Primary turret discharge nozzle. The vehicle will be equipped with a combination dry chemical/ AFFF nozzle of the entrainment type on the primary turret mounted on the cab roof.

3.7 Dry chemical agent system. The vehicle will be equipped with a 450 lb minimum capacity potassium bicarbonate dry chemical auxiliary agent system. The propellant gas cylinder will be replaceable within fifteen minutes by two crew members standing on the ground and be equipped with a cylinder replacement hoisting system. The propellant gas cylinder will be secured to withstand off-road operations. A pressure indicator will be visible to any person opening the tank fill cap. Blow-down piping will be directed beneath the vehicle. The dry chemical agent tank will include lifting rings and will have a nameplate indicating, as a minimum, the following:

a. Extinguishing agent.
b. Capacity.
c. Weight full.
d. Weight empty.
e. Operating pressure.
f. Hydrostatic test date.
g. Type of agent required for re-servicing.

3.7.1 Dry chemical primary turret discharge nozzle. The vehicle will be equipped with a turret mounted on the cab roof with a combination dry chemical/AFFF turret of the concentric direct injection type, designed to entrain the dry chemical agent within the AFFF solution discharge. Dry chemical discharge control will be within reach of the driver and the turret operator.

3.8 Halogenated agent system.

3.8.1. A 460 lb. Halotron I clean agent system including an agent storage container, a hose reel and an argon propellant cylinder will be provided. The agent storage container will conform to ASME standards for unfixed pressure vessels. The system will be capable of discharging a minimum of 90% of the containerized agent without flow fluctuations or interruptions. The propellant gas cylinder will be replaceable within fifteen minutes by two crew members standing on the ground and be equipped with a cylinder replacement hoisting system. The propellant gas cylinder will be secured to withstand off-road operations. A pressure indicator will be visible to any person opening the tank fill cap. Blow-down piping will be directed beneath the vehicle. The Halotron I agent tank will include lifting rings and will have a nameplate indicating, as a minimum, the following:

a. Extinguishing agent.
b. Capacity.
c. Weight full.
d. Weight empty.
e. Operating pressure.
f. Hydrostatic test date.
g. Type of agent required for re-servicing.

3.8.2. Halotron I hose reel. A Halotron I hose reel will be provided in a compartment on the side of the vehicle. The reel will include 150 ft. of 1 in. flat/expanding type hose and an appropriate nozzle. The hose reel will be equipped with an electric rewind motor with manual rewind provisions and rollers to facilitate hose deployment. A tension device will be installed to prevent the hose from inadvertently unreeling. The nozzle will be capable of discharging a minimum of 5 lb./ sec. of Halotron I agent in accordance with the performance requirements of the A/C. Controls at the reel will allow charging of the Halotron I agent in the agent storage container, and into the handline.

3.8.3. Halotron I system charging cylinder. One (1) 400 cu. ft. argon cylinder with an integral pressure gauge bottle will be provided for discharging the vehicle mounted Halotron I system. One (1) spare 400 cu. ft. argon cylinder will be provided. Each cylinder will have sufficient capacity to discharge all of the Halotron I agent in the agent storage container and perform a blow down operation of the system without requiring a cylinder change. A means of lifting the argon cylinder to its stored position or lowering it to ground level will be provided. The design will be such that it will allow one person to safely perform the argon cylinder re-servicing on the vehicle. The lifting/lowering mechanism will be stored on the vehicle adjacent to the nitrogen cylinder storage area. This storage provision must accommodate for the braking and for the high G forces experienced during off road travel as described in this specification.

3.9 Electrical systems and warning devices. The vehicle will have a 12-volt or 24-volt electrical and starting system in accordance with NFPA 414.

3.9.1 Alternator. An appropriate charging system, in accordance with NFPA 414, will be provided. The minimum continuous electrical load will include operation of the air conditioning system.

3.9.2 Batteries. Batteries will be of the maintenance-free type; addition of water will not be required during normal service life. The battery cover and vent system will be designed to prevent electrolyte loss during service and to keep the top of the battery free from electrolyte.

3.9.2.1 Battery compartment. The batteries will be enclosed in a weatherproof enclosure, cover, or compartment and be readily accessible.

3.9.3 Battery charger or conditioner. The vehicle will have a DC taper type battery charger or an automatic battery conditioner, or voltage monitoring system, providing a minimum 12 amp output. The charger/conditioner will be permanently mounted on the vehicle in a properly ventilated, accessible location. The charger/conditioner will be powered from the electrical shoreline receptacle (see 3.10.1). A charging indicator will be installed next to the receptacle. When a battery conditioner is provided, the conditioner will monitor the battery state of charge and, as necessary, automatically charge or maintain the batteries without gassing, depleting fluid level, overheating, or overcharging. A slave receptacle will be provided at the rear or on either side of the vehicle cab. Battery jump studs may be installed on the exterior of the battery box in lieu of a slave receptacle.

3.9.4 Electromagnetic interference. The vehicle electrical system will be in accordance with SAE J551-2 for electromagnetic interference.

3.9.5 Work lighting.

3.9.5.1 Cab interior lights. Cab interior light levels will be sufficient for reading maps or manuals. At least one red and one white cab interior dome light will be provided.

3.9.5.2 Compartment lights. White lighting sufficient to provide an average minimum illumination of 1.0 footcandle will be provided in each compartment greater than 4.0 cubic feet and having an opening greater than 144 square inches. Where a shelf is provided, this illumination will be provided both above and below the shelf. All compartments will be provided with weatherproof lights that are

switched to automatically illuminate when compartment doors are opened and the vehicle master switch is in the 'on' position. Light switches will be of the magnetic (non-mechanical) type.

3.9.5.3 Ladder, step, walkway, and area lights. Non-glare white or amber lighting will be provided at ladders and access steps where personnel work or climb during night operations. In addition, ground lighting will be provided. Ground lights will be activated when the parking brake is set in accordance with AC 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles. These area lights will be controlled with three-way switches on the cab instrument panel and near the light sources. The switch located in the cab will be a master switch and must be turned on before auxiliary switches near the light sources are operational.

3.9.5.4 Spot/Floodlights. Two spot/floodlights will be attached at the end of the primary turret or at the end of the HRET assembly. The lights will illuminate the area covered by the turret. Both lights will be controlled from switches in the cab. LED lights will be used.

3.9.5.5 Flood Lights. Two telescoping floodlights will be provided. One light will be mounted on the left and right sides of the vehicle. 250W LED lights will be used. Both lights will be mounted on extension tubes and controlled from switches in the cab and manually raised. To prevent these lights from accidental damage, the cab will be equipped with a visual warning signal to alert the driver if the lights are inadvertently left in the "up" position.

3.9.5.6 Scene Lights. A total of six high mounted floodlights will be provided to illuminate the work areas around the vehicle. Two lights will be mounted on the front and two will be mounted on each side of the vehicle. The lights will be powered by the vehicle alternator driven system or auxiliary generator, and the lights in the front will be controlled from switches in the cab. LED lights will be used.

3.9.6 Audible warning devices.

3.9.6.1 Siren. The vehicle will be equipped with an electronic siren system. The amplifier unit will include volume control and selection of "Radio," "PA," "Manual," "Yelp," "Wail," and "Hi-Lo" (European) modes, and a magnetic noise canceling microphone. The amplifier, microphone, and controls will be within reach of the driver and the turret operator. Siren activating foot switches will be located in front of the driver and the turret operator. The siren speaker will be rated at 100 watts minimum and will be located in a guarded position as low and as far forward on the vehicle as practical.

3.9.6.2 Horn. Dual forward facing air horns will be installed in protected locations near the front of the vehicle. Air horn activating foot switches will be located in front of the driver and the turret operator.

3.9.7 Emergency warning lights. All emergency warning lights must meet the requirements of AC 150/5210-5. Where applicable, LED lights will be used as the primary light type. Lighting units will be installed on the top front, sides, and rear of the vehicle to provide 360° visibility. A switch will be provided on the instrument panel to control all of the top, side, front and rear emergency warning lights. A switch will also be provided on the instrument panel to disable all lower emergency warning lights when desired. All lighting systems will meet NFPA 414 emergency lighting criteria.

3.9.7.1 Emergency warning light color. All emergency warning lights will meet the requirements of AC 150/5210-5.

3.9.7.2 Headlight flashing system. A high beam, alternating/flashing, headlight system will be provided. The headlight flasher will be separately switched from the warning light panel. All emergency warning lights will meet the requirements of AC 150/5210-5.

3.9.8 Radio circuit. The vehicle will have three separate 30 amp circuits with breakers and connections provided in a space adjacent to the driver and turret operator for installation of radios and other communications equipment after the vehicle has been delivered. To facilitate the installation of the communications equipment the manufacturer will provide three antennas pre-installed on top of the cab. ***Radios are an airport responsibility and not part of this specification.***

3.9.9 Power receptacles.

3.9.9.1 Primary power receptacles. The vehicle will have two duplex 15-amp 110-volt power receptacles, one installed adjacent to the cab door on each side of the vehicle. Each duplex receptacle will include one straight blade and one twist-lock connection. These outlets will be powered by the generator.

3.9.9.2 Auxiliary power receptacles. The vehicle will have 2-12-volt auxiliary power receptacles mounted adjacent to the driver and crew member positions, preferably in the instrument panel.

3.9.9.3 Cable reel. The vehicle will be equipped with an electrical cable reel, located within a compartment. The reel will be equipped with 200 feet of 20 amp, 600 volt, 90°C insulated electrical cable. The electrical cable will be equipped with a rubber ball stop to prevent cable pull through during rewinding operations. A four-way roller guide will be provided on the cable reel to prevent chafing of cable insulation. The cable reel will have an electric rewind motor with provisions for manual rewind in the event of motor failure; the manual rewind handle will be securely stored near the cable reel. A portable weatherproof duplex outlet box, with built-in circuit breakers and twist-lock receptacles, will be provided for on the cable end. The cable reel will be powered by the auxiliary generator.

3.9.10 Auxiliary generator. A minimum 10 kilowatt (kW) (continuous rating), 120/240-volt, 60 hertz, diesel, hydraulic, or split shaft Power Takeoff (PTO)-driven generator will be provided.

3.10 Line voltage electrical system.

3.10.1 Electrical shoreline connection. The battery charger/conditioner will be powered from a covered, polarized, insulated, labeled, recessed (flush mounted), male, 110 volt AC auto-eject receptacle. The connection will be located on the exterior of the vehicle at the rear or on either side of the cab. A weatherproof charge meter will be installed next to the receptacle. A 15 amp rated, 110-120 volt, AC straight blade (non twist-lock) connector will be provided.

3.11 Air systems.

3.11.1 Air hose reel. An air hose reel will be provided in an enclosed compartment on the vehicle. The hose reel will be equipped with 200 feet of 3/8-inch I.D. hoseline. A 3/8 inch National Pipe Taper (NPT) fitting and female style quick disconnect will be connected to the end of the hoseline. A four-way roller guide will be provided for the hose reel to prevent hose chafing and kinking. The hoseline will be equipped with a rubber ball stop to prevent hose pull through on roller guides during rewinding operations. The hose reel will have an electric rewind motor and provisions for manual rewind in the event of motor failure; the manual rewind handle will be securely stored near the hose reel. A pressure protected air supply from the chassis air system will be connected to the hose reel. The air supply lines will be routed with minimum bends and located or guarded from damage from the carried equipment.

3.12 Ladder Mounting Brackets. Ladder mounting brackets shall be supplied by the Owner and the vehicle manufacturer shall mount said brackets on the vehicle in a location that accommodates ease of access for removal and is capable of accommodating the OWNER'S 24 foot extension ladder.

3.13 Quality of Workmanship. The vehicle, including all parts and accessories, will be fabricated in a thoroughly workmanlike manner. Particular attention will be given to freedom from blemishes, burrs, defects, and sharp edges; accuracy of dimensions, radii of fillets, and marking of parts and assemblies; thoroughness of welding, brazing, soldering, riveting, and painting; alignment of parts; tightness of fasteners; et cetera. The vehicle will be thoroughly cleaned of all foreign matter.

3.14 Warranty. The fire fighting unit will be covered by a minimum one year warranty after delivery, in which all warranty work will be completed at Trenton-Mercer Airport or the equipment shall be transported to an approved repair facility at no cost to the County of Mercer. The chassis and drive train will have a minimum 3 year / 36,000 mile warranty. All polypropylene tanks will be covered by a lifetime warranty. All warranty work calls shall be responded to by the supplier or the supplier approved repair facility within 72 hours.

4. REGULATORY REQUIREMENTS.

4.1 Recoverable Materials. The contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with Title 48: Federal Acquisition Regulations System, Part 2823—Environment, Conservation, Occupational Safety, and Drug-free Workplace, Subpart 2823.4 Use of Recovered Material, 403 Policy and 404 Procedures.

4.2 Green Procurement Program. Green Procurement Program (GPP) is a mandatory federal acquisition program that focuses on the purchase and use of environmentally preferable products and services. GPP requirements apply to all acquisitions using appropriated funds, including services and new requirements. FAR 23.404(b) applies and states the GPP requires 100% of EPA designated product purchase that are included in the Comprehensive Procurement Guidelines list that contains recovered materials, unless the item cannot be acquired:

a. competitively within a reasonable timeframe;
b. meet appropriate performance standards, or
c. at a reasonable price.

The prime contractor is responsible for ensuring that all subcontractors comply with this requirement. Information on the GPP can be found at:
http://www.dot.gov/ost/m60/DOT_policy_letters/apl8_04.pdf or FAR 23.404(b):
http://www.acquisition.gov/far/current/html/Subpart%2023_4.html.

5. PRODUCT CONFORMANCE PROVISIONS.

5.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

a. Performance inspection (see 5.2).
b. Conformance inspection (see 5.3).

5.2 Performance inspection. The vehicle will be subjected to the examinations and tests described in 5.6.3.1 through 5.6.3.5 (if applicable). The contractor will provide or arrange for all test equipment, personnel, schedule, and facilities.

5.3 Conformance inspection. The vehicle will be subjected to the examinations and tests described in 5.6.3.1 through 5.6.3.5 (if applicable). The contractor will provide or arrange for all test equipment, personnel, and facilities.

5.4 Product conformance. The products provided will meet the performance characteristics of this PS, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial marketplace. The purchaser reserves the right to require proof of such conformance.

5.5 Technical proposal. The offeror/contractor will provide an itemized technical proposal that describes how the proposed model complies with each characteristic of this PS; a paragraph by paragraph response to the characteristics section of this PS will be provided. The offeror/contractor will provide two copies of their commercial descriptive catalogs with their offer as supporting reference to the itemized technical proposal. The offeror/contractor will identify all modifications made to their commercial model in order to comply with the requirements herein. The vehicle furnished will comply with the "commercial item" definition of FAR 2.101 as of the date of award. The purchaser reserves the right to require the offeror/contractor to prove that their product complies with the referenced commerciality requirements and each conformance/performance characteristics of this PS.

5.6 Inspection requirements.

5.6.1 General inspection requirements. Apparatus used in conjunction with the inspections specified herein will be laboratory precision type, calibrated at proper intervals to ensure laboratory accuracy.

5.6.2 Test rejection criteria. Throughout all tests specified herein, the vehicle will be closely observed for the following conditions, which will be cause for rejection:

a. Failure to conform to design or performance requirements specified herein or in the contractor's technical proposal.

b. Any spillage or leakage of any liquid, including fuel, coolant, lubricant, or hydraulic fluid, under any condition, except as allowed herein.

c. Structural failure of any component, including permanent deformation, or evidence of impending failure.

d. Evidence of excessive wear.

e. Interference between the vehicle components or between the vehicle, the ground, and all required obstacles, with the exception of normal contact by the tires.

f. Misalignment of components.

g. Evidence of undesirable roadability characteristics, including instability in handling during cornering, braking, and while traversing all required terrain.

h. Conditions that present a safety hazard to personnel during operation, servicing, or maintenance.

i. Overheating of the engine, transmission, or any other vehicle component.

j. Evidence of corrosion.

k. Failure of the fire fighting system and sub-systems.

5.6.3 Detailed inspection requirements.

5.6.3.1 Examination of product. All component manufacturers' certifications, as well as the prototype and production/operational vehicle testing outlined in Table 1, will be examined to verify compliance with the requirements herein. Attention will be given to materials, workmanship, dimensions, surface finishes, protective coatings and sealants and their application, welding, fastening, and markings. Proper operation of vehicle functions will be verified as defined by NFPA 414, Acceptance Criteria chapter. A copy of the vehicle manufacturer's certifications will be provided with each vehicle in accordance with NFPA 414. The airport may accept a manufacturer or third party certification for any/all prototype and production/operational vehicle testing performed prior to delivery which proves that the vehicle meets the performance parameters of NFPA 414.

Table 1. Vehicle Test Data

NFPA 414 paragraph	***Test***
Production Vehicle Operational Tests (NFPA 414 - Section 6.4)	
(6.4.1)	Vehicle Testing, Side Slope
(6.4.2)	Weight / Weight Distribution
(6.4.3)	Acceleration. **NOTE:** *With the modification that the instrumentation must be a GPS-based electronic data collection system.*
(6.4.4)	Top Speed
(6.4.5)	Brake Operational Test
(6.4.6)	Air System / Air Compressor Test
(6.4.7)	Agent Discharge Pumping Test
(6.4.8)	Dual Pumping System Test (As Applicable)
(6.4.9)	Pump and Maneuver Test
(6.4.10)	Hydrostatic Pressure Test
(6.4.11)	Foam Concentration Test
(6.4.12)	Primary Turret Flow Rate Test

NFPA 414 paragraph	*Test*
(6.4.13)	Piercing/Penetration Nozzle Testing (As Applicable)
Prototype Vehicle Tests (NFPA 414 – Section 6.3)	
(6.3.1)	Rated Water and Foam Tank Capacity Test
(6.3.2)	Cornering Stability. **NOTE:** *With the modification that the evasive maneuver / double-lane change test must be conducted at 35 mph (56 kph).*
(6.3.3)	Vehicle Dimensions
(6.3.4)	Driver Vision Measurement
(6.3.5)	Pump and Roll on a 40 Percent Grade
(6.3.6)	Electrical Charging System
(6.3.7)	Radio Suppression
(6.3.8)	Gradability Test
(6.3.9)	Body and Chassis Flexibility Test
(6.3.10)	Service/Emergency Brake Test
(6.3.11)	Service/Emergency Brake Grade Holding Test
(6.3.12)	Steering Control Test
(6.3.13)	Vehicle Clearance Circle Test
(6.3.14)	Agent Pump(s)/Tank Vent Discharge Test
(6.3.15)	Water Tank Fill and Overflow Test
(6.3.16)	Flushing System Test
(6.3.17)	Primary Turret Flow Rate Test
(6.3.18)	Primary Turret Pattern Test
(6.3.19)	Primary Turret Control Force Measurement
(6.3.20)	Primary Turret Articulation Test
(6.3.21)	Handline Nozzle Flow Rate Test
(6.3.22)	Handline Nozzle Pattern Test
(6.3.23)	Ground Sweep/Bumper Turret Flow Rate Test
(6.3.24)	Ground Sweep/Bumper Turret Pattern Control Test
(6.3.25)	Undertruck Nozzle Test
(6.3.26)	Foam Concentration/Foam Quality Test
(6.3.27)	Warning Siren Test
(6.3.28)	Propellant Gas
(6.3.29)	Pressure Regulation
(6.3.30)	AFFF Premix Piping and Valves
(6.3.31)	Pressurized Agent Purging and Venting
(6.3.32)	Complementary Agent Handline Flow Rate and Range
(6.3.33)	Dry Chemical Turret Flow Rate and Range
(6.3.34)	Cab Interior Noise Test

6. PACKAGING.

6.1 Preservation, packing, and marking will be as specified in the Procurement Specification, contract or delivery order.

6.2 The vehicle must be delivered with full operational quantities of lubricants, brake and hydraulic fluids, and cooling system fluid all of which must be suitable for use in the temperature range expected at the airport.

6.3 The vehicle must be delivered with one complete load of firefighting agents and propellants. One complete load is defined as all of the agents and propellants necessary for the vehicle to be fully operational. One load would include, at a minimum: one fill of a foam tank; one fill of a dry chemical tank (if applicable); one fill of a halogenated tank (if applicable); one spare nitrogen cylinder for a dry chemical system (if applicable); and one spare argon cylinder for a halogenated system (if applicable). Agents and propellants for required testing or training are not included. For the initial training period, water should be used in place of other extinguishing agents. The manufacturer may pre-ship agents and propellants to a receiving airport to reduce overall procurement costs.

6.4 The vehicle manufacturer must provide initial adjustments to the vehicle for operational readiness and mount any ancillary appliances purchased through the vehicle manufacturer as part of the vehicle.

7. TRAINING.

7.1 Upon delivery of the vehicle to the airport, the manufacturer must, at no additional cost, provide the services of a qualified technician for five consecutive days (or up to 8 days for an high reach extendable turret) for training. This is considered sufficient time for the purchaser to adjust shift work schedules to get maximum employee attendance to training sessions at some point during the training period. During this time sufficient repetitive learning opportunities must be provided by the manufacturer to allow various shifts to complete the training requirements.

7.2 The technician must provide thorough instruction in the use, operation, maintenance and testing of the vehicle. This setup must include operator training for the primary operators, which will give them sufficient knowledge to train other personnel in the functional use of all fire fighting and vehicle operating systems. Prior to leaving the vehicle, the technician should review the maintenance instructions with the purchaser's personnel to acquaint them with maintenance procedures as well as how to obtain support service for the vehicle.

7.3 Training must include written operating instructions, electronic training aids (videos/power point), or other graphics that depict the step-by-step operation of the vehicle. Written instructions must include materials that can be used to train subsequent new operators.

8. REFERENCED DOCUMENTS.

8.1 Source of documents.

8.1.1 The CFR may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington DC 20402.

Title 14, Code of Federal Regulations (CFR), Part 139, Certification of Airports (14 CFR Part 139)

Section 139.315 Aircraft Rescue and Firefighting: Index Determination.

Section 139.317 Aircraft Rescue and Firefighting: Equipment and Agents.

Section 139.319 Aircraft Rescue and Firefighting: Operational Requirements.

Title 49; Code of Federal Regulations (CFR), Part 393: Parts and Accessories Necessary for Safe Operation: Subpart C—Brakes.

Title 49; Code of Federal Regulations (CFR), Part 571, Motor Carrier Vehicle Safety Standards, Part 209, Standard No. 209; Seat Belt Assemblies

8.1.2 SAE documents may be obtained from SAE, Inc., 400 Commonwealth Drive, Warrendale PA 15096.

8.1.3 National Fire Protection Association (NFPA): NFPA documents may be obtained from NFPA, Batterymarch Park, Quincy MA 02269-9101.

NFPA 412, Standard for Evaluating Aircraft Rescue and Fire-Fighting Foam Equipment (2009 Edition)

NFPA 414, Standard for Aircraft Rescue and Fire Fighting Vehicles (2007 Edition)

NFPA 1901, Standard for Automotive Fire Apparatus (2009 Edition)

8.1.4 Federal Aviation Administration (FAA): FAA ACs may be obtained from the FAA website: http://www.faa.gov/regulations_policies/advisory_circulars/

AC 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles

AC 150/5210-5, Painting, Marking, and Lighting of Vehicles Used on an Airport

FAA Orders, Specifications, and Drawings may be obtained from: Federal Aviation Administration, ATO-W CM-NAS Documentation, Control Center, 800 Independence Avenue, SW, Washington, DC 20591. Telephone: (202) 548-5256, FAX: (202) 548-5501 and website: http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/techops/atc_facilities/cm/cm_documentation/

METHOD OF MEASUREMENT

9.1 Measurement for payment of ARFF Vehicle No. 1 will be made on lump sum bases and will include the airfare and per diem cost for two Trenton-Mercer representatives to inspect the proposed ARFF Vehicle No. 1 at the mid-point of assembly and once the ARFF Vehicle No. 1 has been completed, as well as the cost of all training required activities to be held at Trenton-Mercer Airport and all delivery costs associated with the delivery of the Vehicle to Trenton-Mercer Airport.

9.2 Measurement for payment of ARFF Vehicle No. 1 Extended Warranty will be made on lump sum bases. The ARFF Vehicle No. 1 Extended Warranty shall cover all non-scheduled maintenance to the vehicle for two years after delivery, in which all warranty work will be completed

at Trenton-Mercer Airport or the equipment shall be transported to an approved repair facility at no cost to the County of Mercer. All warranty work calls shall be responded to by the supplier or the supplier approved repair facility within 72 hours.

BASIS OF PAYMENT

10.1 The lump sum prices bid for the ARFF Vehicle No. 1 shall include all equipment, materials, labor and incidentals necessary to complete this item. This item shall also include the airfare and per diem cost for two Trenton-Mercer representatives to inspect the proposed ARFF Vehicle No. 1 at the mid-point of assembly and once the ARFF Vehicle No. 1 has been completed, as well as the cost of all training required activities to be held at Trenton-Mercer Airport and all delivery costs associated with the delivery of the Vehicle to Trenton-Mercer Airport.

10.2 The lump sum prices bid for the ARFF Vehicle No. 1 Extended Warranty shall include all equipment, materials, labor and incidentals necessary to complete this item. The ARFF Vehicle No. 1 Extended Warranty shall cover all non-scheduled maintenance to the vehicle for two years after delivery, in which all warranty work will be completed at Trenton-Mercer Airport or the equipment shall be transported to an approved repair facility at no cost to the County of Mercer. All warranty work calls shall be responded to by the supplier or the supplier approved repair facility within 72 hours.

Payment will be made under:

Item P-655-10.1 ARFF Vehicle No. 1 - per lump sum

Item P-655-10.2 ARFF Vehicle No. 1 Extended Warranty - per lump sum

END OF ITEM P-655

Item P 656 ARFF VEHICLE PROCUREMENT SPECIFICATION, CLASS 4 (Alternate Bid No. 1)

PROCUREMENT SPECIFICATION Class 4 AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF) VEHICLE

1. SCOPE. This Procurement Specification (PS) covers a commercially produced diesel engine driven ARFF vehicle for an Index B airport. It includes a 1500 gallon water/Aqueous Film Forming Foam (AFFF) fire suppression system:
450 lb potassium-based dry chemical and 460 lb halogenated agent complementary systems.

The ARFF vehicle is intended to carry rescue and fire fighting equipment for the purpose of rescuing aircraft passengers, preventing aircraft fire loss, and combating fires in aircraft.

2. CLASSIFICATION. The ARFF vehicle(s) covered by this PS are classified in accordance with Part 139, Certification and Operations: Land Airports Serving Certain Air Carriers, Section 315, Aircraft Rescue and Firefighting: Index Determination; Section 317, Aircraft Rescue and Firefighting: Equipment and Agents; and Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles, as follows:

Airport Index	Vehicle Class	Minimum Rated Capacities (gallons/liters)
Index B	4	1500 gallon (5678 liter) water/AFFF solution

3. VEHICLE CONFORMANCE/PERFORMANCE CHARACTERISTICS. The ARFF vehicle will be in accordance with the applicable requirements of National Fire Protection Association (NFPA) 414, Standard for Aircraft Rescue and Fire Fighting Vehicles (2007 Edition), and AC 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles.

3.1 General Administration Requirements.

3.1.1 Manuals: Technical manuals will consist of operator, service, and parts manuals. All manuals are required to be provided in hardcopy and in digital format on CDs when requested.

3.1.1.1 Technical manuals. The overall format for the manuals will be commercial. Each technical manual will have a title page. Line art will be used to the maximum extent possible for illustrations and parts lists. One complete set of engine and transmission parts, service and operator's manuals will be packed with each vehicle.

a. The contractor will provide digitized manuals in CD format when requested in addition to or in place of printed paper copies.

b. The contractor will provide two complete sets of hardcopy manuals and / or CDs when requested.

3.1.1.1.1 Operator's manual. The operator's manual will include all information required for the safe and efficient operation of the vehicle, including fire extinguishing systems, equipment, and any special attachments or auxiliary support equipment. As a minimum, the operator's manual will include the following:

a. The location and function of all controls and instruments will be illustrated and functionally described.

b. Safety information that is consistent with the safety standards established by the Occupational Safety and Health Administration (OSHA) and NFPA.

c. All operational and inspection checks and adjustments in preparation for placing the vehicle into service upon receipt from the manufacturer.

d. Tie down procedures for transport on a low-boy trailer.

e. Warranty information and the period of the warranty coverage for the complete vehicle and for any component warranty that exceeds the warranty of the complete vehicle. Addresses and telephone numbers will be provided for all warranty providers.

f. General description and necessary step-by-step instructions for the operation of the vehicle and its fire extinguishing system(s) and auxiliary equipment.

g. A description of the post-operational procedures (draining, flushing, re-servicing, etcetera).

h. Daily maintenance inspection checklists that the operator is expected to perform, including basic troubleshooting procedures.

i. Disabled vehicle towing procedures.

j. Procedures and equipment required for changing a tire.

k. Schedules (hours, miles, time periods) for required preventative maintenance and required periodic maintenance.

l. Line art drawing of the vehicle, including panoramic views (front, rear, left, and right sides) showing basic dimensions and weights (total vehicle and individual axle weight for the unloaded and fully loaded vehicle). For the purposes of this AC, "unloaded" is defined as a lack of agent, occupants and compartment load, and "loaded" is defined as including agent, occupants and compartment load.

3.1.1.1.2 Service manual. The service manual will identify all special tools and testequipment required to perform servicing, inspection, and testing. The manual will cover troubleshooting and maintenance as well as minor and major repair procedures. The text will contain performance specifications, tolerances, and fluid capacities; current, voltage, and resistance data; test procedures; and illustrations and exploded views as may be required to permit proper maintenance by qualified vehicle mechanics. The manual will contain an alphabetical subject index as well as a table of contents. The service manual will contain at least the following, where applicable:

a. Fire fighting system schematic(s).

b. Hydraulic schematic.

c. Pneumatic schematic.

d. Electrical schematic.

e. Winterization schematic.

f. Fuel schematic.

g. Schedules for required preventative maintenance and required periodic maintenance.

h. Lubrication locations, procedures, and intervals for parts of the vehicle and equipment that require lubrication.

3.1.1.1.3 Parts identification manual. The parts manual will include illustrations or exploded views (as needed) to identify properly all parts, assemblies, subassemblies, and special equipment. All components of assemblies shown in illustrations or exploded views will be identified by reference numbers that correspond to the reference numbers in the parts lists. All purchased parts will be cross-referenced with the original equipment manufacturer's (OEM) name and part number. The parts identification manual will provide the description and quantity of each item used for each vehicle. The size, thread dimensions, torque specifications, and special characteristics will be provided for all nonstandard nuts, bolts, screws, washers, grease fittings, and similar items. The manual will contain a numerical index. The parts manual will contain a list of all of the component vendor names, addresses, and telephone numbers referenced in the parts list.

3.1.2 Painting, plating, and corrosion control.

3.1.2.1 Finish. Exterior surfaces will be prepared, primed, and painted in accordance with all of the paint manufacturer's instructions and recommendations. Vehicles will be painted and marked in accordance with AC 150/5210-5, Painting, Marking, and Lighting of Vehicles Used on an Airport. The interior finish of all compartments will be based on the manufacturer’s standard production practice. This may include painting, texturing, coating or machine swirling as determined by the manufacturer. All bright metal and anodized parts, such as mirrors, horns, light bezels, tread plates, and roll-up compartment doors, will not be painted. All other surfaces capable of being painted must be in the appropriate yellow-green color.

3.1.2.2 Dissimilar metals. Dissimilar metals, as defined in MIL-STD-889, Dissimilar Metals, will not be in contact with each other. Metal plating or metal spraying of dissimilar base metals to provide electromotively compatible abutting surfaces is acceptable. The use of dissimilar metals separated by suitable insulating material is permitted, except in systems where bridging of insulation materials by an electrically conductive fluid can occur.

3.1.2.3 Protection against deterioration. Materials that deteriorate when exposed to sunlight, weather, or operational conditions normally encountered during service will not be used or will have a means of protection against such deterioration that does not prevent compliance with performance requirements. Protective coatings that chip, crack, or scale with age or extremes of climatic conditions or when exposed to heat will not be used.

3.1.2.4 Reflective stripes. A minimum eight (8) inch horizontal band of high gloss white paint or white reflective tape (Retroreflective, ASTM-D 4956-09, *Standard Specification for Retroreflective Sheeting for Traffic Control*, TYPE III & above) must be applied around the vehicle’s surface.

3.1.2.5 Lettering. The manufacturer will apply the airport's 'Name' and 'Insignia' (if available) in a contrasting color or by decal on both sides of the vehicle in long radius elliptical arches above and below the lettering center line. The size of the lettering will be a minimum of 2½-inches to a maximum of 6-inches. Reflective lettering is allowed if the material is the same as that which is used for the reflective stripe (as specified in AC 150/5210-5).

3.1.3 Vehicle identification plate. A permanently marked identification plate will be securely mounted at the driver's compartment. The identification plate will contain the following information:

a. NOMENCLATURE

b. MANUFACTURER'S MAKE AND MODEL

c. MANUFACTURER'S SERIAL NUMBER

d. VEHICLE CURB WEIGHT: kg (pounds)

e. PAYLOAD, MAXIMUM: kg (pounds)

f. GROSS VEHICLE WEIGHT (GVW): kg (pounds)

g. FUEL CAPACITY AND TYPE: gals (gallons)

h. DATE OF DELIVERY (month and year)

i. WARRANTY (months and km (miles))

j. CONTRACT NUMBER

k. PAINT COLOR AND NUMBER

A second permanently marked information data plate will be securely mounted on the interior of the driver's compartment. The plate will contain the information required by NFPA 414, Standard for Aircraft Rescue and Fire Fighting Vehicles (2007 Edition), Section 1.3.5 Vehicle Information Data Plate. A single plate that combines or contains the information required for both plates is acceptable.

3.1.4 Environmental conditions.

3.1.4.1 Vehicle operation and storage temperature conditions will vary with geographical location. Thus, the locality temperature range can go from -40° to 110°F. Refer to NFPA 414 for vehicle winterization criteria.

3.1.4.2 Extreme temperature range. The vehicle will be capable of satisfactory storage and operation in temperatures ranging from -40° to 110°F. The vehicle will be equipped with a cab, chassis, and agent winterization system, permitting operation at -40°F. The winterization system will not detract from the performance of the vehicle or the firefighting system in ambient temperatures up to 110°F. The vehicle chassis winterization system will maintain the engine coolant, lubricants, fuel, and electrical systems operational at ambient temperatures of -40°F. The vehicle agent winterization system will provide sufficient insulation and heating capacity, by means of hot circulating liquids and/or forced air heat exchangers, to permit satisfactory operation of the vehicle and firefighting systems for a 2-hour period at ambient temperatures as low as -40°F with the vehicle fully operational and the engine running. At the end of this 2-hour

period, the vehicle will be capable of successfully discharging its agents. All compartments not winterized will be marked as such on the interior of the compartment. The marking will state that the compartment is not winterized and cannot be used for the storage of items capable of freezing.

3.1.5 Reduction of potential foreign object damage. All loose metal parts, such as pins, will be securely attached to the vehicle with wire ropes or chains. Removable exterior access panels, if provided, will be attached with captive fasteners.

3.1.6 Vehicle Mobility.

3.1.6.1 Operating terrain. The vehicle will be capable of operating safely on paved roads, graded gravel roads, cross country terrain, and sandy soil environments. Cross country terrain consists of open fields, broken ground, and uneven terrain. An off-road, high-mobility suspension system resulting in no more than 0.5 G_{rms} acceleration at the driver's seat of the vehicle when traversing an 8-inch (20 cm) diameter half round at 35 mph (56 kph) must be provided. The suspension design by which the manufacturer meets the suspension performance requirements is at the manufacturer's discretion.

3.1.6.2 Gradeability. The fully loaded vehicle will be able to ascend any paved slope up to and including 50-percent.

3.1.6.3 Side slope stability. The fully loaded vehicle will be stable on a 30° side slope when tested in accordance with NFPA 414.

3.1.6.4 Cornering stability. The fully loaded vehicle will be stable in accordance with NFPA 414 when tested in accordance with NFPA 414.

3.2 Weights and dimensions.

3.2.1 Overall dimensions. The maximum dimensions listed below are desirable to ensure vehicles can be accommodated in existing fire stations. Likewise, the overall dimensions should be held to a minimum that is consistent with the best operational performance of the vehicle and the design concepts needed to achieve this performance and to provide maximum maneuverability in accordance with NFPA 414.

Vehicle Capacity /Dimensions	**1500 Gallon**
Length (inches/cm)	433/1100
Width (inches/cm, excluding mirrors)	124/315
Height (inches/cm)	154/391

VEHICLE MEASUREMENT VALIDATION

The Firehouse was field measured to validate that the maximum dimensions listed above will work with the existing ARFF Station.

ADO/FAA Approval: ⇨_____

3.2.2 Angles of approach and departure. The fully loaded vehicle will have angles of approach and departure of not less than 30°.

3.2.3 Field of vision. The vehicle will have a field of vision in accordance with NFPA 414.

3.2.3.1 Mirrors. Combination flat and convex outside rearview mirrors will be installed on each side of the cab. The flat mirrors will be of the motorized remote control type, providing not less than 60° horizontal rotational viewing range. The flat mirrors will also have electrically heated heads. Mirror remote and heating controls will be located on the instrument panel within reach of the seated driver. To provide the driver a clear view of the area ahead of the vehicle and to eliminate potential blind spots, a rectangular mirror will be installed on the lower corner of each side of the windshield, having a minimum area of 35 square inches. The vehicle will have a back-up (rear-view) camera with a display monitor mounted above the driver in the cab. Cameras and monitors that are designed to replace the function of the side-view mirrors are not an approved option in this specification.

3.3 Chassis and vehicle components.

3.3.1 Engine. The vehicle will have a turbocharged diesel engine that is certified to comply with the Environmental Protection Agency (EPA) and state laws for off-highway emission requirements at the time of manufacture. The engine and transmission must operate efficiently and without detrimental effect to any drive train components when lubricated with standard, commercially available lubricants according to the recommendations of the engine and transmission manufacturers.

3.3.1.1 Acceleration. The fully loaded vehicle will accelerate from 0 to 50 miles per hour (mph) on a level paved road within: 25 seconds.

3.3.1.2 Maximum speed. The fully loaded vehicle will attain a minimum top speed of 70 mph on a level, paved road.

3.3.1.3 Pump and roll on a 40-percent grade. The fully loaded vehicle will be capable of pump and roll operations on a paved, dry, 40-percent grade in accordance with NFPA 414.

3.3.2 Engine cooling system. The engine cooling system will be in accordance with NFPA 414. A label will be installed near the engine coolant reservoir reading “Engine Coolant Fill.”

3.3.3 Fuel system. The fuel system will be in accordance with NFPA 414.

3.3.3.1 Fuel priming pump. The vehicle will be equipped with an electric or pneumatic fuel pump in addition to the mechanical fuel pump. The electric/pneumatic pump will be used as a priming pump capable of re-priming the engines fuel system.

3.3.3.2 Fuel tank. The vehicle will have one or two fuel tanks with a minimum usable capacity in accordance with NFPA 414, as amended by NFPA 414. Each tank will have a fill opening of 3 inches minimum, readily accessible to personnel standing on the ground and designed to prevent fuel splash while refueling. Each tank will be located and mounted so as to provide maximum protection from damage, exhaust heat, and ground fires. If more than one tank is furnished, means will be provided to assure equalized fuel level in both tanks. An overturn fuel valve will be provided for each tank to prevent spillage in the event of a rollover. Each fuel tank must be prominently labeled "Diesel Fuel Only".

3.3.4 Exhaust system. The exhaust system will be in accordance with NFPA 414. The exhaust system will be constructed of high grade rust resistant materials and protected from damage resulting from travel over rough terrain. The muffler(s) will be constructed of aluminized steel or stainless steel. Exhaust system outlet(s) will be directed upward, away from personnel accessing equipment compartments and the engine air intake, and will not be directed toward the ground.

3.3.5 Transmission. A fully automatic transmission will be provided. The transmission will be in accordance with NFPA 414.

3.3.6 Driveline. The vehicle driveline will be in accordance with NFPA 414. If the driveline is equipped with a differential locking control, a warning/caution label will be placed in view of the driver indicating the proper differential locking/un-locking procedures. The operator's manual will also include a similar warning/caution. All moving parts requiring routine lubrication must have a means of providing for such lubrication. There must be no pressure lubrication fittings where their normal use would damage grease seals or other parts.

3.3.7 Axle capacity. Each axle will have a rated capacity, as established by the axle manufacturer, in accordance with NFPA 414.

3.3.8 Suspension. The suspension system will be in accordance with NFPA 414 and AC 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles.

3.3.9 Tires and wheels. Tires and wheels will be in accordance with NFPA 414. The vehicle will be equipped with single tires and wheels at all wheel positions. The vehicle will be equipped with tubeless steel belted radial tires with non-directional on/off-road type tread mounted on disc wheel assemblies. Tire and wheel assemblies will be identical at all positions. Tires and wheels will be certified by the manufacturer for not less than 25 miles of continuous operation at 60 mph at the normal operational inflation pressure. A spare tire and wheel assembly will be provided; however, the spare tire and wheel assembly are not required to be mounted on the vehicle. Tires will be new. Retreads, recaps, or re-grooved tires will not be permitted.

Tire bead locks shall be installed on all tires and rims.

JUSTIFICATION

The tire bead locks would prevent a tire from coming off, if a tire was to go flat during an off road incident.

ADO/FAA Approval: ⇨_____

3.3.10 Towing connections. The vehicle will be equipped with towing connections in accordance with NFPA 414. The vehicle will be designed for flat towing; the capability to lift and tow the vehicle is not required. The tow connections may intrude into the 30 degree approach angle.

3.3.11 Brake system. The vehicle will be equipped with a multi-channel all-wheel antilock brake system with at least one channel for each axle. The brakes will be automatic, self-adjusting and fully air-actuated. Brakes will be in accordance with CFR 49 CFR 393.40 through 393.42(b)), 393.43, and 393.43 through 393.52. The braking system, complete with all necessary components will include:

a. Air compressor having a capacity of not less than 16 standard cubic feet per minute (SCFM).

b. Air storage reservoir(s), each tank equipped with drain (bleed) valves, and with safety and check valves between the compressor and the reservoir tank.

c. Automatic moisture ejector on each air storage reservoir. Manual air tank drains are acceptable if they are labeled, are centrally located in one compartment and are accessible by an individual standing at the side of the vehicle.

d. Automatic slack adjusters on cam brakes or internal self-adjusting brakes on wedge brakes on all axles.

e. Spring set parking brakes.

All components of the braking system will be installed in such a manner as to provide adequate road clearance when traveling over uneven or rough terrain, including objects liable to strike and cause damage to the brake system components. No part of the braking system will extend below the bottom of wheel rims, to ensure, in case of a flat tire, that the weight of the vehicle will be supported by the rim and the flat tire and not be imposed on any component of the braking system. Slack adjusters and air chambers will be located above the bottom edge of the axle carrier.

3.3.11.1 Air dryer. A replaceable cartridge desiccant air dryer will be installed in the air brake system. The dryer will have the capability of removing not less than 95 percent of the moisture in the air being dried. The dryer will have a filter to screen out oil and solid contaminants. The dryer will have an automatic self-cleaning cycle and a thermostatically controlled heater to prevent icing of the purge valve.

3.3.11.2 Compressed air shoreline or vehicle-mounted auxiliary air compressor. A flush mounted, check valved, auto-eject compressed air shoreline connection will be provided to maintain brake system pressure while the vehicle is not running. The shoreline will be flush mounted (not to extend outside the body line), located on the exterior of the vehicle, either on the left side rear corner of the cab, or at the rear of the vehicle. In lieu of a compressed air shoreline connection, the vehicle may be equipped with a 110 volt shoreline connected vehicle-mounted auxiliary air compressor. In addition to a compressed air shoreline connection, the vehicle may be equipped with an electrical shoreline connected vehicle mounted auxiliary air compressor.

3.3.12 Steering. The vehicle will be equipped with power steering. Rear-wheel steering technology is not an approved vehicle option.

3.3.12.1 Steering effort. The steering system performance will be in accordance with NFPA 414.

3.3.12.2 Turning diameter. The fully loaded vehicle will have a wall to wall turning diameter of less than three times the overall length of the vehicle in both directions in accordance with NFPA 414.

3.3.13 License plate bracket. A lighted license plate bracket will be provided at the left rear and left front of the vehicle. The location of the left front bracket will be placed so as not to interfere with the operation of fire fighting systems.

3.4 Cab. The vehicle will have a fully enclosed two door cab of materials which are corrosion resistant, such as aluminum, stainless steel, or glass reinforced polyester construction. Steps and handrails will be provided for all crew doors, and at least one grab handle will be provided for each crew member, located inside the cab for use while the vehicle is in motion. The lowermost step(s) will be no more than 22 inches above level ground when the vehicle is fully loaded. A tilt and telescoping steering column will be provided.

3.4.1 Windshield and windows. The windshield and windows will be of tinted safety glass. Each door window will be capable of being opened far enough to facilitate emergency occupant escape in the event of a vehicle accident. The vehicle windows will have an electric control system.

3.4.2 Cab interior sound level. The maximum cab interior sound level will be in accordance with NFPA 414.

3.4.3 Instruments and controls. All instruments and controls will be illuminated and designed to prevent or reduce windshield glare. Gauges will be provided for oil pressure, coolant temperature, and automatic transmission temperature. In addition to the instruments and controls required by NFPA 414, the following will be provided within convenient reach of the seated driver:

a. Master warning light control switch,
b. Work light switch(es), and
c. Compartment "Door Open" warning light and intermittent alarm that sounds when a compartment door is open and the parking brakes are released or the transmission is in any position other than neutral.

3.4.4 Windshield deluge system. The vehicle will be equipped with a powered windshield deluge system. The deluge system will be supplied from the agent water tank and will have an independent pumping system. The deluge system activation switch will be located within reach of the seated driver and turret operator.

3.4.5 Forward Looking Infrared (FLIR). A forward looking infrared (FLIR) camera and in-cab monitor, meeting the requirements of NFPA 414, will be provided. In addition, the FLIR monitor described in NFPA 414 will have a minimum dimension of 10 in (25 cm) (measured diagonally) and be located in a position where it is visible to both the seated driver and turret operator.

3.4.6 Climate control system. The offeror/contractor's standard heater/defroster and air conditioning system will be provided. The climate control system will induct at least 60 cubic feet per minute of

fresh air into the cab. Cab mounted components will be protected from inadvertent damage by personnel.

3.4.7 Seats. The driver seat will be adjustable fore and aft and for height. The turret operator's seat, located to the right front of the driver's seat, will be a fixed (non-suspension) type. Each seat will be provided with a Type 3 seat belt assembly (i.e., 3-point retractable restraint) in accordance with CFR 49 CFR 571.209. Seat belts must be of sufficient length to accommodate crew members in full Personal Protective Equipment (PPE).

3.4.7.1. Seat Options. Two types of seat options are allowed in the vehicle. A standard seat contains a hard/fixed back. For these seats, a remote-mounted bracket designed to store a Self–Contained Breathing Apparatus (SCBA) will be provided. The remote-mounted bracket for the driver and turret operator (at a minimum) must be placed inside the cab. The brackets for seat positions #3 and #4 may be placed outside of the cab if necessary. An SCBA seat, on the other hand, contains an opening which can accommodate someone wearing an SCBA. The chart below represents the user's stated preference for the vehicle seating configuration.

Position	Standard	SCBA-Seat	N/A
Driver		**X**	
Turret		**X**	
# 3		**X**	
# 4			**X**

JUSTIFICATION

During emergencies, back-up personnel will be coming from another fire station and we will need the three SCBA seats to accommodate the additional two people with SCBA packs that will be part of the ARFF vehicle response.

ADO/FAA Approval: ⇨_____

3.4.8 Windshield wipers and washer. The vehicle will be equipped with electrically powered windshield wipers. The wiper arms and blades will be of sufficient length to clear the windshield area described by SAE J198, Windshield Wiper Systems - Trucks. Individual wiper controls will include a minimum of two speed settings and an intermittent setting. The wiper blades will automatically return to a park position, out of the line of vision. The vehicle will be equipped with a powered windshield washer system, including an electric fluid pump, a minimum one gallon fluid container, washer nozzles mounted to the wiper arms (wet arms), and a momentary switch.

3.4.9 Warning signs. Signs that state "Occupants must be seated and wearing a seat belt when apparatus is in motion" will be provided in locations that are visible from each seated position in accordance with NFPA 414."

3.4.10 Lateral accelerometer and/or stability control system. The vehicle will be equipped with a lateral accelerometer and/or an electronic stability control system in accordance with NFPA 414.

3.4.11 Monitoring and Data Acquisition System (MADAS). The vehicle will be equipped with a MADAS as prescribed by NFPA 414.

3.5 Body, compartments, and equipment mounting.

3.5.1 Body. The vehicle will have a corrosion-resistant body.

3.5.2 Compartments. The vehicle body will have lighted compartments in accordance with NFPA 414 with a minimum of 10 cubic feet of enclosed storage space.

3.5.2.1 Compartment doors. Storage compartments will have clear anodized aluminum, counterbalanced, non-locking, roll-up or single hinged doors as determined by the manufacturer. Door latch handles on roll-up doors will be full-width bar type. Door straps will be provided to assist in closing the compartment doors when the rolled up or hinged door height exceeds six feet above the ground.

3.5.2.2 Scuffplates. Replaceable scuffplates will be provided at each compartment threshold to prevent body damage from sliding equipment in and out of the compartments. The scuffplates will be securely attached to the compartment threshold but will be easily replaceable in the event of damage.

3.5.2.3 Drip rails. Drip rails will be provided over each compartment door.

3.5.2.4 Shelves. An adjustable and removable compartment shelf will be provided for every 18 inches of each vertical storage compartment door opening. Shelving adjustments will require no more than common hand tools, and will not require disassembly of fasteners. Shelves will support a minimum of 200 pounds without permanent deformation. Each shelf will be accessible to crew members standing on the ground or using a pull out and tip-down configuration. Each shelf will have drain holes located so as to allow for drainage of any water from the stowed equipment.

3.5.2.5 Drainage mats. Each compartment floor and shelf will be covered with a removable black mat designed to allow for drainage of any water from the stowed equipment.

3.5.3 SCBA storage tubes. A single compartment or tubes for storage of four SCBA bottles will be provided. If tubes are provided, two will be installed on each side of the vehicle. The tubes will be of sufficient size to accommodate the procuring agencies SCBA cylinders.

3.5.4 Ladder, handrails, and walkways. Ladder, stepping, standing, and walking surfaces will be in accordance with NFPA 414. Handrails will be provided in accordance with NFPA 414. The lowermost step(s) or ladder rungs will be no more than 22 inches (56 cm) above level ground when the vehicle is fully loaded. The lowermost steps may extend below the angle of approach or departure or ground clearance limits if they are designed to swing clear. The tread of the bottom steps must be at least 8 inches (20 cm) in width and succeeding steps at least 16 inches (40 cm) in width. The full width of all steps must have at least 6 inches (15 cm) of unobstructed toe room or depth when measured from, and perpendicular to, the front edge of the weight-bearing surface of the step.

3.5.5 Ancillary equipment. Ancillary equipment listed in NFPA 414 A.4.2.1 (1)-(17) is not covered by this Procurement Specification in accordance with AC 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles. Ancillary equipment is funded separately by other sources.

NOTE: Equipment funding will be obtained as a separate contract under the provisions of AC 150/5210-14, Aircraft Rescue and Fire Fighting Equipment, Tools, and Clothing.

3.6 Agent system.

3.6.1 Agent (fire) pump. The vehicle will be equipped with a centrifugal pump capable of providing the performance specified herein as prescribed by NFPA 414.

3.6.1.1 Agent system piping. All piping, couplings, and valves and associated components that come into contact with the agent will be in accordance with NFPA 414.

3.6.1.2 Tank to pump connection. A check valve and shutoff valve will be provided in each tank to pump line.

3.6.1.3 Piping, couplings, and valves. All agent system piping will conform to NFPA 414 criteria.

3.6.1.4 Overheat protection. The agent system will be equipped with an overheat protection system in accordance with NFPA 414. Overheat protection is not required on vehicles utilizing a pre-mixed pressurized foam system.

3.6.1.5 Pressure relief valves. The agent system will be equipped with pressure relief valves in accordance with NFPA 414.

3.6.1.6 Drains. The agent system will be equipped with a drainage system in accordance with NFPA 414.

3.6.2 Water tank. The vehicle will have a water tank with a manufacturer certified minimum capacity of at least 1500 gallons.

3.6.2.1 Water tank construction. The water tank will be constructed of passivated stainless steel, polypropylene, or Glass Reinforced Polyester (GRP) construction. All materials used will be capable of storing water, foam concentrate, and water/AFFF solutions.

3.6.2.2 Water tank overhead fill cover and drain. The water tank will be equipped with a 20 inch fill tower. The tower will be designed to allow for video inspection of the water tank interior. The water tank will incorporate a drainage system in accordance with NFPA 414.

3.6.2.3 Water tank overflow system and venting. The water tank will incorporate a venting system to relieve pressure on the tank during fill and discharge operations at maximum flow rates. It will have an overflow system to relieve excess fluid in the event of tank overfill. Drainage from the vent and overflow system will not flow over body panels or other vehicle components and will not be in the track of any of the tires. Tank vent hoses will be of the non-collapsible type.

3.6.2.4 Water tank top fill opening. A top fill opening of not less than 8 inches internal diameter with a readily removable ¼-inch mesh strainer will be provided. The fill opening may be incorporated as part of the manhole cover, and will be sized to accommodate a 2½-inch fill hose.

3.6.2.5 Water tank fill connections. The water tank will incorporate National Hose thread connections and will be in accordance with NFPA 414. If the vehicle is fitted with the "structural fire

fighting capability option," the additional requirements listed in paragraph 3.6.8 must be incorporated.

3.6.3 Foam system.

3.6.3.1 Foam concentrate tank. The foam concentrate tank(s) will have a manufacturer certified working capacity sufficient for two tanks of water at the maximum tolerance specified in NFPA 412, Standard for Evaluating Aircraft Rescue and Fire-Fighting Foam Equipment for 3 to 6 percent foam concentrate (i.e., 7.0-percent).

3.6.3.1.1 Foam tank construction. The foam tank will be constructed of passivated stainless steel, polypropylene, or GRP construction. All materials used will be capable of storing foam concentrate.

3.6.3.1.2 Foam tank drain. The foam tank will incorporate a drain and drain valve. The valve will be on the left side of the vehicle and controlled by a crew member standing on the ground. The drain line will have a minimum 1½-inch I.D. The foam tank drain outlet will be located so that the contents of the tank can be drained into 5-gallon cans and 55-gallon drums.

3.6.3.1.3 Foam tank top fill trough. The foam tank will incorporate a top fill trough mounted in the top of the tank readily accessible to at least two crew members on top of the vehicle. The top fill trough will incorporate a cover, latch, and sealed so as to prevent spillage under any operating condition. The top fill trough will be designed to allow two standard 5gallon foam concentrate containers to be emptied simultaneously. The top fill trough neck will extend sufficiently close to the bottom of the tank to reduce foaming to a minimum during the fill operation. The top fill trough will incorporate readily removable, rigidly constructed 10 mesh stainless steel, brass or polyethylene strainers. All components in and around the top fill trough will be constructed of materials that resist all forms of deterioration that could be caused by the foam concentrate or water.

3.6.3.2 Foam tank fill connections. The foam tank will incorporate a 1.5-inch National Hose thread female hose connection on both sides of the vehicle to permit filling by an external transfer hose at flow rates up to 25-gpm. The connections will be provided with chained-on long handled plugs or rocker lug plugs. The top of the connections will be no higher than 48 inches above the ground and readily accessible. The fill lines will incorporate check valves and readily removable, rigidly constructed ¼-inch mesh strainers. All components in the foam tank fill system will be constructed of materials that resist all forms of deterioration that could be caused by the foam concentrate or water.

3.6.3.2.1 Foam tank vent and overflow system. The foam tank will incorporate a vent system to relieve pressure on the tank during fill and discharge operations at maximum flow rates and an overflow system to relieve excess liquid in the event of tank overfill. Drainage from the vent and overflow system will not flow over body panels or other vehicle components and will not be in front of or behind any of the tires. Tank vent hoses will be of the non-collapsible type.

3.6.3.3 Foam transfer pump. A foam transfer pump will be provided and mounted in a compartment on the vehicle. The pump will be capable of transferring and drawing foam liquid concentrate at adjustable flow rates up to 25-gpm directly through the pump and loading connections (see 3.6.3.2). All materials and components that come in contact with the foam will be compatible with the foam concentrate. The pump and its plumbing will have provisions for flushing with water from the water

tank. A suitable length of hose with appropriate connections will be provided for filling the foam tank from an external foam storage container.

3.6.3.4 Foam flushing system. The foam concentrate system will be designed in accordance with NFPA 414 so that the system can be readily flushed with clear water.

3.6.3.5 Foam concentrate piping. All metallic surfaces of the piping and associated components that come into contact with the foam concentrate will be of brass, bronze, or passivated stainless steel. The foam concentrate piping will be in accordance with NFPA 414.

3.6.4 Foam proportioning system. The vehicle will have a foam proportioning system for Aqueous Film-Forming Foam (AFFF) (whether 3- or 6-percent foam concentrate) in accordance with NFPA 414. If a fixed orifice plate system is used, a plate will be provided for each percentage foam concentrate; the additional plate will be securely mounted in a protected location on the vehicle. A fire vehicle mechanic will be able to interchange the plates using common hand tools.

3.6.5 Primary vehicle turret. The vehicle will be equipped with a standard roof-mounted turret, high reach extendable turret, and/or high flow bumper mounted turret to serve as the primary source of agent delivery, as specified below:

3.6.5.1 Roof turret. The roof turret will be mounted near the front of the roof of the vehicle. It will have a non-air-aspirating, constant flow, variable stream nozzle with dual flow rates for foam or water rated as specified in NFPA 414. The discharge pattern will be infinitely variable from straight stream to fully dispersed. The roof turret will be power operated; power controls will be positioned for use by the driver and the crew member seated to the right of the driver. The type of nozzle or turret drain will be per the manufacturer's recommendation.

3.6.6 Bumper turret. The vehicle will be equipped with a joystick controlled, constant flow, non-air-aspirating, variable stream type: low angle high volume dual rate (minimum 375/750 GPM) bumper turret. The bumper turret will be capable of discharging at a minimum flow rates of foam or water as specified by the user, with a pattern infinitely variable from straight stream to fully dispersed. The bumper turret will be capable of automatic oscillation, with the range of oscillation adjustable up to 90° each side of center (left and right) with vertical travel capabilities of +45°/-20° meeting section 4.20.2 in NFPA 414.

3.6.7 Preconnected handline(s). One 200 foot, 1¾-inch pre-connected woven jacket handline(s), with a 1½-inch control valve and a pistol grip nozzle, will be located on (or accessible from) left side of the vehicle. A safety system will be provided to prevent charging of the hose until the hose has been fully deployed. The handline(s) and nozzle(s) will be in accordance with NFPA 414, and will allow for a minimum of 95 gpm at 100 psi nozzle pressure. A control for charging the handline will be provided for operation by both the driver and the turret operator.

3.6.7.1 In addition, the vehicle will be equipped with the following handline: 100 feet of twinned 1-inch dry chemical / foam-water hose on a reel.

3.6.8. Structural fire fighting capability. The vehicle will be equipped with an agent system structural control panel, on the left side of the vehicle, operable while standing on the ground. Structural panel activation will be interlocked to operate only with the vehicle parking brakes set and

the transmission in neutral position. Controls and instruments will be grouped by function. The control panel will be hinged or accessible from the rear for maintenance. Instruments will be lighted for night operation.

3.6.8.1 The structural panel will include, as a minimum, the following:

a. Panel activation switch, including the panel lights.

b. Engine tachometer.

c. Engine oil pressure gauge with low pressure warning light.

d. Engine coolant temperature gauge with high temperature warning light.

e. A liquid filled gauge, or digital indicator for pump suction, -30 inches Hg vacuum to 600 psi.

f. A liquid filled gauge, or digital indicator for pump pressure, 0 to 600 psi.

g. An adjustable pump pressure using either an electronic pressure governor or manual control with a relief valve will be provided.

h. Foam or water selection.

i. Water and foam tank liquid level indicators, located adjacent to the water and foam tank fills.

3.6.8.2 The structural fire fighting capability will also require installation of the following items:

a. A priming pump and control (for drafting using the large intake connection).

b. Water tank isolation valve.

c. Discharge connections. Two 2½-inch discharge connections with male National Hose threads will be provided. One 2½-inch discharge will be provided on each side of the vehicle. Each connection will be equipped with a cap, a quarter-turn control valve, a bleeder valve, and a pressure gauge. Each connection will be rated at 250-gpm minimum.

d. Intake connections. The vehicle will be equipped with one valved 4½-inch intake connection on the left side. The vehicle will be equipped with one valved 2½-inch intake connection on the left side adjacent to the 4½-inch intake connection with both having either a 30° or 45° turn-down fitting. The 4½-inch intake connection will have male National Hose threads, a quarter-turn control valve, a bleeder valve, a strainer, and a cap. The 2½-inch intake connection will have rocker lug female National Hose threads, a quarter-turn control valve, a bleeder valve, a strainer, and a plug. The vehicle will be capable of filling its water tank by pumping from a draft, a hydrant, or a nurse truck through either of the intake connections without the use of a hose from a discharge connection to a tank fill connection.

3.6.9 Primary turret discharge nozzle. The vehicle will be equipped with a combination dry chemical/ AFFF nozzle of the entrainment type on the primary turret mounted on the cab roof.

3.7 Dry chemical agent system. The vehicle will be equipped with a 450 lb minimum capacity potassium bicarbonate dry chemical auxiliary agent system. The propellant gas cylinder will be replaceable within fifteen minutes by two crew members standing on the ground and be equipped with a cylinder replacement hoisting system. The propellant gas cylinder will be secured to withstand off-road operations. A pressure indicator will be visible to any person opening the tank fill cap. Blow-down piping will be directed beneath the vehicle. The dry chemical agent tank will include lifting rings and will have a nameplate indicating, as a minimum, the following:

a. Extinguishing agent.
b. Capacity.
c. Weight full.
d. Weight empty.
e. Operating pressure.
f. Hydrostatic test date.
g. Type of agent required for re-servicing.

3.7.1 Dry chemical primary turret discharge nozzle. The vehicle will be equipped with a turret mounted on the cab roof with a combination dry chemical/AFFF turret of the concentric direct injection type, designed to entrain the dry chemical agent within the AFFF solution discharge. Dry chemical discharge control will be within reach of the driver and the turret operator.

3.8 Halogenated agent system.

3.8.1. A 460 lb. Halotron I clean agent system including an agent storage container, a hose reel and an argon propellant cylinder will be provided. The agent storage container will conform to ASME standards for unfixed pressure vessels. The system will be capable of discharging a minimum of 90% of the containerized agent without flow fluctuations or interruptions. The propellant gas cylinder will be replaceable within fifteen minutes by two crew members standing on the ground and be equipped with a cylinder replacement hoisting system. The propellant gas cylinder will be secured to withstand off-road operations. A pressure indicator will be visible to any person opening the tank fill cap. Blow-down piping will be directed beneath the vehicle. The Halotron I agent tank will include lifting rings and will have a nameplate indicating, as a minimum, the following:

a. Extinguishing agent.
b. Capacity.
c. Weight full.
d. Weight empty.
e. Operating pressure.
f. Hydrostatic test date.
g. Type of agent required for re-servicing.

3.8.2. Halotron I hose reel. A Halotron I hose reel will be provided in a compartment on the side of the vehicle. The reel will include 150 ft. of 1 in. flat/expanding type hose and an appropriate nozzle. The hose reel will be equipped with an electric rewind motor with manual rewind provisions and rollers to facilitate hose deployment. A tension device will be installed to prevent the hose from

inadvertently unreeling. The nozzle will be capable of discharging a minimum of 5 lb./ sec. of Halotron I agent in accordance with the performance requirements of the A/C. Controls at the reel will allow charging of the Halotron I agent in the agent storage container, and into the handline.

3.8.3. Halotron I system charging cylinder. One (1) 400 cu. ft. argon cylinder with an integral pressure gauge bottle will be provided for discharging the vehicle mounted Halotron I system. One (1) spare 400 cu. ft. argon cylinder will be provided. Each cylinder will have sufficient capacity to discharge all of the Halotron I agent in the agent storage container and perform a blow down operation of the system without requiring a cylinder change. A means of lifting the argon cylinder to its stored position or lowering it to ground level will be provided. The design will be such that it will allow one person to safely perform the argon cylinder re-servicing on the vehicle. The lifting/lowering mechanism will be stored on the vehicle adjacent to the nitrogen cylinder storage area. This storage provision must accommodate for the braking and for the high G forces experienced during off road travel as described in this specification.

3.9 Electrical systems and warning devices. The vehicle will have a 12-volt or 24-volt electrical and starting system in accordance with NFPA 414.

3.9.1 Alternator. An appropriate charging system, in accordance with NFPA 414, will be provided. The minimum continuous electrical load will include operation of the air conditioning system.

3.9.2 Batteries. Batteries will be of the maintenance-free type; addition of water will not be required during normal service life. The battery cover and vent system will be designed to prevent electrolyte loss during service and to keep the top of the battery free from electrolyte.

3.9.2.1 Battery compartment. The batteries will be enclosed in a weatherproof enclosure, cover, or compartment and be readily accessible.

3.9.3 Battery charger or conditioner. The vehicle will have a DC taper type battery charger or an automatic battery conditioner, or voltage monitoring system, providing a minimum 12 amp output. The charger/conditioner will be permanently mounted on the vehicle in a properly ventilated, accessible location. The charger/conditioner will be powered from the electrical shoreline receptacle (see 3.10.1). A charging indicator will be installed next to the receptacle. When a battery conditioner is provided, the conditioner will monitor the battery state of charge and, as necessary, automatically charge or maintain the batteries without gassing, depleting fluid level, overheating, or overcharging. A slave receptacle will be provided at the rear or on either side of the vehicle cab. Battery jump studs may be installed on the exterior of the battery box in lieu of a slave receptacle.

3.9.4 Electromagnetic interference. The vehicle electrical system will be in accordance with SAE J551-2 for electromagnetic interference.

3.9.5 Work lighting.

3.9.5.1 Cab interior lights. Cab interior light levels will be sufficient for reading maps or manuals. At least one red and one white cab interior dome light will be provided.

3.9.5.2 Compartment lights. White lighting sufficient to provide an average minimum illumination of 1.0 footcandle will be provided in each compartment greater than 4.0 cubic feet and having an

opening greater than 144 square inches. Where a shelf is provided, this illumination will be provided both above and below the shelf. All compartments will be provided with weatherproof lights that are switched to automatically illuminate when compartment doors are opened and the vehicle master switch is in the 'on' position. Light switches will be of the magnetic (non-mechanical) type.

3.9.5.3 Ladder, step, walkway, and area lights. Non-glare white or amber lighting will be provided at ladders and access steps where personnel work or climb during night operations. In addition, ground lighting will be provided. Ground lights will be activated when the parking brake is set in accordance with AC 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles. These area lights will be controlled with three-way switches on the cab instrument panel and near the light sources. The switch located in the cab will be a master switch and must be turned on before auxiliary switches near the light sources are operational.

3.9.5.4 Spot/Floodlights. Two spot/floodlights will be attached at the end of the primary turret or at the end of the HRET assembly. The lights will illuminate the area covered by the turret. Both lights will be controlled from switches in the cab. LED lights will be used.

3.9.5.5 Flood Lights. Two telescoping floodlights will be provided. One light will be mounted on the left and right sides of the vehicle. 250W LED lights will be used. Both lights will be mounted on extension tubes and controlled from switches in the cab and manually raised. To prevent these lights from accidental damage, the cab will be equipped with a visual warning signal to alert the driver if the lights are inadvertently left in the "up" position.

3.9.5.6 Scene Lights. A total of six high mounted floodlights will be provided to illuminate the work areas around the vehicle. Two lights will be mounted on the front and two will be mounted on each side of the vehicle. The lights will be powered by the vehicle alternator driven system or auxiliary generator, and the lights in the front will be controlled from switches in the cab. LED lights will be used.

3.9.6 Audible warning devices.

3.9.6.1 Siren. The vehicle will be equipped with an electronic siren system. The amplifier unit will include volume control and selection of "Radio," "PA," "Manual," "Yelp," "Wail," and "Hi-Lo" (European) modes, and a magnetic noise canceling microphone. The amplifier, microphone, and controls will be within reach of the driver and the turret operator. Siren activating foot switches will be located in front of the driver and the turret operator. The siren speaker will be rated at 100 watts minimum and will be located in a guarded position as low and as far forward on the vehicle as practical.

3.9.6.2 Horn. Dual forward facing air horns will be installed in protected locations near the front of the vehicle. Air horn activating foot switches will be located in front of the driver and the turret operator.

3.9.7 Emergency warning lights. All emergency warning lights must meet the requirements of AC 150/5210-5. Where applicable, LED lights will be used as the primary light type. Lighting units will be installed on the top front, sides, and rear of the vehicle to provide 360° visibility. A switch will be provided on the instrument panel to control all of the top, side, front and rear emergency warning

lights. A switch will also be provided on the instrument panel to disable all lower emergency warning lights when desired. All lighting systems will meet NFPA 414 emergency lighting criteria.

3.9.7.1 Emergency warning light color. All emergency warning lights will meet the requirements of AC 150/5210-5.

3.9.7.2 Headlight flashing system. A high beam, alternating/flashing, headlight system will be provided. The headlight flasher will be separately switched from the warning light panel. All emergency warning lights will meet the requirements of AC 150/5210-5.

3.9.8 Radio circuit. The vehicle will have three separate 30 amp circuits with breakers and connections provided in a space adjacent to the driver and turret operator for installation of radios and other communications equipment after the vehicle has been delivered. To facilitate the installation of the communications equipment the manufacturer will provide three antennas pre-installed on top of the cab. ***Radios are an airport responsibility and not part of this specification.***

3.9.9 Power receptacles.

3.9.9.1 Primary power receptacles. The vehicle will have two duplex 15-amp 110-volt power receptacles, one installed adjacent to the cab door on each side of the vehicle. Each duplex receptacle will include one straight blade and one twist-lock connection. These outlets will be powered by the generator.

3.9.9.2 Auxiliary power receptacles. The vehicle will have 2-12-volt auxiliary power receptacles mounted adjacent to the driver and crew member positions, preferably in the instrument panel.

3.9.9.3 Cable reel. The vehicle will be equipped with an electrical cable reel, located within a compartment. The reel will be equipped with 200 feet of 20 amp, 600 volt, 90°C insulated electrical cable. The electrical cable will be equipped with a rubber ball stop to prevent cable pull through during rewinding operations. A four-way roller guide will be provided on the cable reel to prevent chafing of cable insulation. The cable reel will have an electric rewind motor with provisions for manual rewind in the event of motor failure; the manual rewind handle will be securely stored near the cable reel. A portable weatherproof duplex outlet box, with built-in circuit breakers and twist-lock receptacles, will be provided for on the cable end. The cable reel will be powered by the auxiliary generator.

3.9.10 Auxiliary generator. A minimum 10 kilowatt (kW) (continuous rating), 120/240-volt, 60 hertz, diesel, hydraulic, or split shaft Power Takeoff (PTO)-driven generator will be provided.

3.10 Line voltage electrical system.

3.10.1 Electrical shoreline connection. The battery charger/conditioner will be powered from a covered, polarized, insulated, labeled, recessed (flush mounted), male, 110 volt AC auto-eject receptacle. The connection will be located on the exterior of the vehicle at the rear or on either side of the cab. A weatherproof charge meter will be installed next to the receptacle. A 15 amp rated, 110-120 volt, AC straight blade (non twist-lock) connector will be provided.

3.11 Air systems.

3.11.1 Air hose reel. An air hose reel will be provided in an enclosed compartment on the vehicle. The hose reel will be equipped with 200 feet of 3/8-inch I.D. hoseline. A 3/8 inch National Pipe Taper (NPT) fitting and female style quick disconnect will be connected to the end of the hoseline. A four-way roller guide will be provided for the hose reel to prevent hose chafing and kinking. The hoseline will be equipped with a rubber ball stop to prevent hose pull through on roller guides during rewinding operations. The hose reel will have an electric rewind motor and provisions for manual rewind in the event of motor failure; the manual rewind handle will be securely stored near the hose reel. A pressure protected air supply from the chassis air system will be connected to the hose reel. The air supply lines will be routed with minimum bends and located or guarded from damage from the carried equipment.

3.12 Ladder Mounting Brackets. Ladder mounting brackets shall be supplied by the Owner and the vehicle manufacturer shall mount said brackets on the vehicle in a location that accommodates ease of access for removal and is capable of accommodating the OWNER'S 24 foot extension ladder.

3.13 Quality of Workmanship. The vehicle, including all parts and accessories, will be fabricated in a thoroughly workmanlike manner. Particular attention will be given to freedom from blemishes, burrs, defects, and sharp edges; accuracy of dimensions, radii of fillets, and marking of parts and assemblies; thoroughness of welding, brazing, soldering, riveting, and painting; alignment of parts; tightness of fasteners; et cetera. The vehicle will be thoroughly cleaned of all foreign matter.

3.14 Warranty. The fire fighting unit will be covered by a minimum one year warranty after delivery, in which all warranty work will be completed at Trenton-Mercer Airport or the equipment shall be transported to an approved repair facility at no cost to the County of Mercer. The chassis and drive train will have a minimum 3 year / 36,000 mile warranty. All polypropylene tanks will be covered by a lifetime warranty. All warranty work calls shall be responded to by the supplier or the supplier approved repair facility within 72 hours.

4. REGULATORY REQUIREMENTS.

4.1 Recoverable Materials. The contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with Title 48: Federal Acquisition Regulations System, Part 2823—Environment, Conservation, Occupational Safety, and Drug-free Workplace, Subpart 2823.4 Use of Recovered Material, 403 Policy and 404 Procedures.

4.2 Green Procurement Program. Green Procurement Program (GPP) is a mandatory federal acquisition program that focuses on the purchase and use of environmentally preferable products and services. GPP requirements apply to all acquisitions using appropriated funds, including services and new requirements. FAR 23.404(b) applies and states the GPP requires 100% of EPA designated product purchase that are included in the Comprehensive Procurement Guidelines list that contains recovered materials, unless the item cannot be acquired:

a. competitively within a reasonable timeframe;
b. meet appropriate performance standards, or
c. at a reasonable price.

The prime contractor is responsible for ensuring that all subcontractors comply with this requirement. Information on the GPP can be found at:
http://www.dot.gov/ost/m60/DOT_policy_letters/apl8_04.pdf or FAR 23.404(b):
http://www.acquisition.gov/far/current/html/Subpart%2023_4.html.

5. PRODUCT CONFORMANCE PROVISIONS.

5.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

a. Performance inspection (see 5.2).
b. Conformance inspection (see 5.3).

5.2 Performance inspection. The vehicle will be subjected to the examinations and tests described in 5.6.3.1 through 5.6.3.5 (if applicable). The contractor will provide or arrange for all test equipment, personnel, schedule, and facilities.

5.3 Conformance inspection. The vehicle will be subjected to the examinations and tests described in 5.6.3.1 through 5.6.3.5 (if applicable). The contractor will provide or arrange for all test equipment, personnel, and facilities.

5.4 Product conformance. The products provided will meet the performance characteristics of this PS, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial marketplace. The purchaser reserves the right to require proof of such conformance.

5.5 Technical proposal. The offeror/contractor will provide an itemized technical proposal that describes how the proposed model complies with each characteristic of this PS; a paragraph by paragraph response to the characteristics section of this PS will be provided. The offeror/contractor will provide two copies of their commercial descriptive catalogs with their offer as supporting reference to the itemized technical proposal. The offeror/contractor will identify all modifications made to their commercial model in order to comply with the requirements herein. The vehicle furnished will comply with the "commercial item" definition of FAR 2.101 as of the date of award. The purchaser reserves the right to require the offeror/contractor to prove that their product complies with the referenced commerciality requirements and each conformance/performance characteristics of this PS.

5.6 Inspection requirements.

5.6.1 General inspection requirements. Apparatus used in conjunction with the inspections specified herein will be laboratory precision type, calibrated at proper intervals to ensure laboratory accuracy.

5.6.2 Test rejection criteria. Throughout all tests specified herein, the vehicle will be closely observed for the following conditions, which will be cause for rejection:

a. Failure to conform to design or performance requirements specified herein or in the contractor's technical proposal.

b. Any spillage or leakage of any liquid, including fuel, coolant, lubricant, or hydraulic fluid, under any condition, except as allowed herein.

c. Structural failure of any component, including permanent deformation, or evidence of impending failure.

d. Evidence of excessive wear.

e. Interference between the vehicle components or between the vehicle, the ground, and all required obstacles, with the exception of normal contact by the tires.

f. Misalignment of components.

g. Evidence of undesirable roadability characteristics, including instability in handling during cornering, braking, and while traversing all required terrain.

h. Conditions that present a safety hazard to personnel during operation, servicing, or maintenance.

i. Overheating of the engine, transmission, or any other vehicle component.

j. Evidence of corrosion.

k. Failure of the fire fighting system and sub-systems.

5.6.3 Detailed inspection requirements.

5.6.3.1 Examination of product. All component manufacturers' certifications, as well as the prototype and production/operational vehicle testing outlined in Table 1, will be examined to verify compliance with the requirements herein. Attention will be given to materials, workmanship, dimensions, surface finishes, protective coatings and sealants and their application, welding, fastening, and markings. Proper operation of vehicle functions will be verified as defined by NFPA 414, Acceptance Criteria chapter. A copy of the vehicle manufacturer's certifications will be provided with each vehicle in accordance with NFPA 414. The airport may accept a manufacturer or third party certification for any/all prototype and production/operational vehicle testing performed prior to delivery which proves that the vehicle meets the performance parameters of NFPA 414.

Table 1. Vehicle Test Data

NFPA 414 paragraph	***Test***
Production Vehicle Operational Tests (NFPA 414 - Section 6.4)	
(6.4.1)	Vehicle Testing, Side Slope
(6.4.2)	Weight / Weight Distribution
(6.4.3)	Acceleration. **NOTE:** *With the modification that the instrumentation must be a GPS-based electronic data collection system.*
(6.4.4)	Top Speed
(6.4.5)	Brake Operational Test
(6.4.6)	Air System / Air Compressor Test
(6.4.7)	Agent Discharge Pumping Test
(6.4.8)	Dual Pumping System Test (As Applicable)
(6.4.9)	Pump and Maneuver Test
(6.4.10)	Hydrostatic Pressure Test
(6.4.11)	Foam Concentration Test
(6.4.12)	Primary Turret Flow Rate Test

NFPA 414 paragraph	***Test***
(6.4.13)	Piercing/Penetration Nozzle Testing (As Applicable)
Prototype Vehicle Tests (NFPA 414 – Section 6.3)	
(6.3.1)	Rated Water and Foam Tank Capacity Test
(6.3.2)	Cornering Stability. **NOTE:** *With the modification that the evasive maneuver / double-lane change test must be conducted at 35 mph (56 kph).*
(6.3.3)	Vehicle Dimensions
(6.3.4)	Driver Vision Measurement
(6.3.5)	Pump and Roll on a 40 Percent Grade
(6.3.6)	Electrical Charging System
(6.3.7)	Radio Suppression
(6.3.8)	Gradability Test
(6.3.9)	Body and Chassis Flexibility Test
(6.3.10)	Service/Emergency Brake Test
(6.3.11)	Service/Emergency Brake Grade Holding Test
(6.3.12)	Steering Control Test
(6.3.13)	Vehicle Clearance Circle Test
(6.3.14)	Agent Pump(s)/Tank Vent Discharge Test
(6.3.15)	Water Tank Fill and Overflow Test
(6.3.16)	Flushing System Test
(6.3.17)	Primary Turret Flow Rate Test
(6.3.18)	Primary Turret Pattern Test
(6.3.19)	Primary Turret Control Force Measurement
(6.3.20)	Primary Turret Articulation Test
(6.3.21)	Handline Nozzle Flow Rate Test
(6.3.22)	Handline Nozzle Pattern Test
(6.3.23)	Ground Sweep/Bumper Turret Flow Rate Test
(6.3.24)	Ground Sweep/Bumper Turret Pattern Control Test
(6.3.25)	Undertruck Nozzle Test
(6.3.26)	Foam Concentration/Foam Quality Test
(6.3.27)	Warning Siren Test
(6.3.28)	Propellant Gas
(6.3.29)	Pressure Regulation
(6.3.30)	AFFF Premix Piping and Valves
(6.3.31)	Pressurized Agent Purging and Venting
(6.3.32)	Complementary Agent Handline Flow Rate and Range
(6.3.33)	Dry Chemical Turret Flow Rate and Range
(6.3.34)	Cab Interior Noise Test

6. PACKAGING.

6.1 Preservation, packing, and marking will be as specified in the Procurement Specification, contract or delivery order.

6.2 The vehicle must be delivered with full operational quantities of lubricants, brake and hydraulic fluids, and cooling system fluid all of which must be suitable for use in the temperature range expected at the airport.

6.3 The vehicle must be delivered with one complete load of firefighting agents and propellants. One complete load is defined as all of the agents and propellants necessary for the vehicle to be fully operational. One load would include, at a minimum: one fill of a foam tank; one fill of a dry chemical tank (if applicable); one fill of a halogenated tank (if applicable); one spare nitrogen cylinder for a dry chemical system (if applicable); and one spare argon cylinder for a halogenated system (if applicable). Agents and propellants for required testing or training are not included. For the initial training period, water should be used in place of other extinguishing agents. The manufacturer may pre-ship agents and propellants to a receiving airport to reduce overall procurement costs.

6.4 The vehicle manufacturer must provide initial adjustments to the vehicle for operational readiness and mount any ancillary appliances purchased through the vehicle manufacturer as part of the vehicle.

7. TRAINING.

7.1 Upon delivery of the vehicle to the airport, the manufacturer must, at no additional cost, provide the services of a qualified technician for five consecutive days (or up to 8 days for an high reach extendable turret) for training. This is considered sufficient time for the purchaser to adjust shift work schedules to get maximum employee attendance to training sessions at some point during the training period. During this time sufficient repetitive learning opportunities must be provided by the manufacturer to allow various shifts to complete the training requirements.

7.2 The technician must provide thorough instruction in the use, operation, maintenance and testing of the vehicle. This setup must include operator training for the primary operators, which will give them sufficient knowledge to train other personnel in the functional use of all fire fighting and vehicle operating systems. Prior to leaving the vehicle, the technician should review the maintenance instructions with the purchaser's personnel to acquaint them with maintenance procedures as well as how to obtain support service for the vehicle.

7.3 Training must include written operating instructions, electronic training aids (videos/power point), or other graphics that depict the step-by-step operation of the vehicle. Written instructions must include materials that can be used to train subsequent new operators.

8. REFERENCED DOCUMENTS.

8.1 Source of documents.

8.1.1 The CFR may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington DC 20402.

Title 14, Code of Federal Regulations (CFR), Part 139, Certification of Airports (14 CFR Part 139)

Section 139.315 Aircraft Rescue and Firefighting: Index Determination.

Section 139.317 Aircraft Rescue and Firefighting: Equipment and Agents.

Section 139.319 Aircraft Rescue and Firefighting: Operational Requirements.

Title 49; Code of Federal Regulations (CFR), Part 393: Parts and Accessories Necessary for Safe Operation: Subpart C—Brakes.

Title 49; Code of Federal Regulations (CFR), Part 571, Motor Carrier Vehicle Safety Standards, Part 209, Standard No. 209; Seat Belt Assemblies

8.1.2 SAE documents may be obtained from SAE, Inc., 400 Commonwealth Drive, Warrendale PA 15096.

8.1.3 National Fire Protection Association (NFPA): NFPA documents may be obtained from NFPA, Batterymarch Park, Quincy MA 02269-9101.

NFPA 412, Standard for Evaluating Aircraft Rescue and Fire-Fighting Foam Equipment (2009 Edition)

NFPA 414, Standard for Aircraft Rescue and Fire Fighting Vehicles (2007 Edition)

NFPA 1901, Standard for Automotive Fire Apparatus (2009 Edition)

8.1.4 Federal Aviation Administration (FAA): FAA ACs may be obtained from the FAA website: http://www.faa.gov/regulations_policies/advisory_circulars/

AC 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles

AC 150/5210-5, Painting, Marking, and Lighting of Vehicles Used on an Airport

FAA Orders, Specifications, and Drawings may be obtained from: Federal Aviation Administration, ATO-W CM-NAS Documentation, Control Center, 800 Independence Avenue, SW, Washington, DC 20591. Telephone: (202) 548-5256, FAX: (202) 548-5501 and website: http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/techops/atc_facilities/cm/cm_documentation/

METHOD OF MEASUREMENT

9.1 Measurement for payment of ARFF Vehicle No. 2 will be made on lump sum bases and will include the airfare and per diem cost for two Trenton-Mercer representatives to inspect the proposed ARFF Vehicle No. 2 at the mid-point of assembly and once the ARFF Vehicle No. 2 has been completed, as well as the cost of all training required activities to be held at Trenton-Mercer Airport and all delivery costs associated with the delivery of the Vehicle to Trenton-Mercer Airport.

9.2 Measurement for payment of ARFF Vehicle No. 2 Extended Warranty will be made on lump sum bases. The ARFF Vehicle No. 2 Extended Warranty shall cover all non-scheduled maintenance to the vehicle for two years after delivery, in which all warranty work will be completed

at Trenton-Mercer Airport or the equipment shall be transported to an approved repair facility at no cost to the County of Mercer. All warranty work calls shall be responded to by the supplier or the supplier approved repair facility within 72 hours.

BASIS OF PAYMENT

10.1 The lump sum prices bid for the ARFF Vehicle No. 2 shall include all equipment, materials, labor and incidentals necessary to complete this item. This item shall also include the airfare and per diem cost for two Trenton-Mercer representatives to inspect the proposed ARFF Vehicle No. 2 at the mid-point of assembly and once the ARFF Vehicle No. 2 has been completed, as well as the cost of all training required activities to be held at Trenton-Mercer Airport and all delivery costs associated with the delivery of the Vehicle to Trenton-Mercer Airport.

10.2 The lump sum prices bid for the ARFF Vehicle No. 2 Extended Warranty shall include all equipment, materials, labor and incidentals necessary to complete this item. The ARFF Vehicle No. 2 Extended Warranty shall cover all non-scheduled maintenance to the vehicle for two years after delivery, in which all warranty work will be completed at Trenton-Mercer Airport or the equipment shall be transported to an approved repair facility at no cost to the County of Mercer. All warranty work calls shall be responded to by the supplier or the supplier approved repair facility within 72 hours.

Payment will be made under:

Item P-656-10.1 ARFF Vehicle No. 2 - per lump sum

Item P-656-10.2 ARFF Vehicle No. 2 Extended Warranty - per lump sum

END OF ITEM P-656